December, 1957

SOAP and CHEMICAL SPECIALTIES

this issue...

of surfactants grows
volume total levels off

* * * *

osol awards announced
CSMA annual meeting

* * * *

ifreeze market outlook
rming producers' hearts

* * * *

ect resistance problem
has experts stumped



James E. Ferris of Hooker Electrochemical Co. is the newly elected president of the Chemical Specialties Manufacturers Assn. He began his career as chemist for Lever Bros. Company. (For details, see Page 91)



With every good wish
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Volume XXXIII No. 12 December 1957

SOAP and CHEMICAL SPECIALTIES

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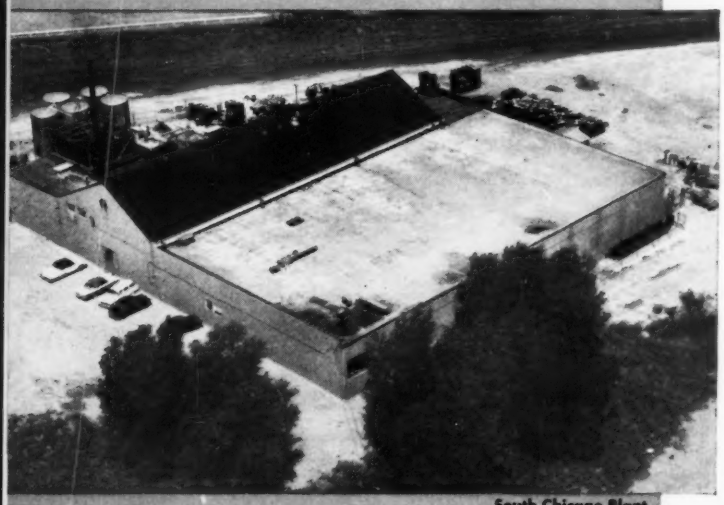
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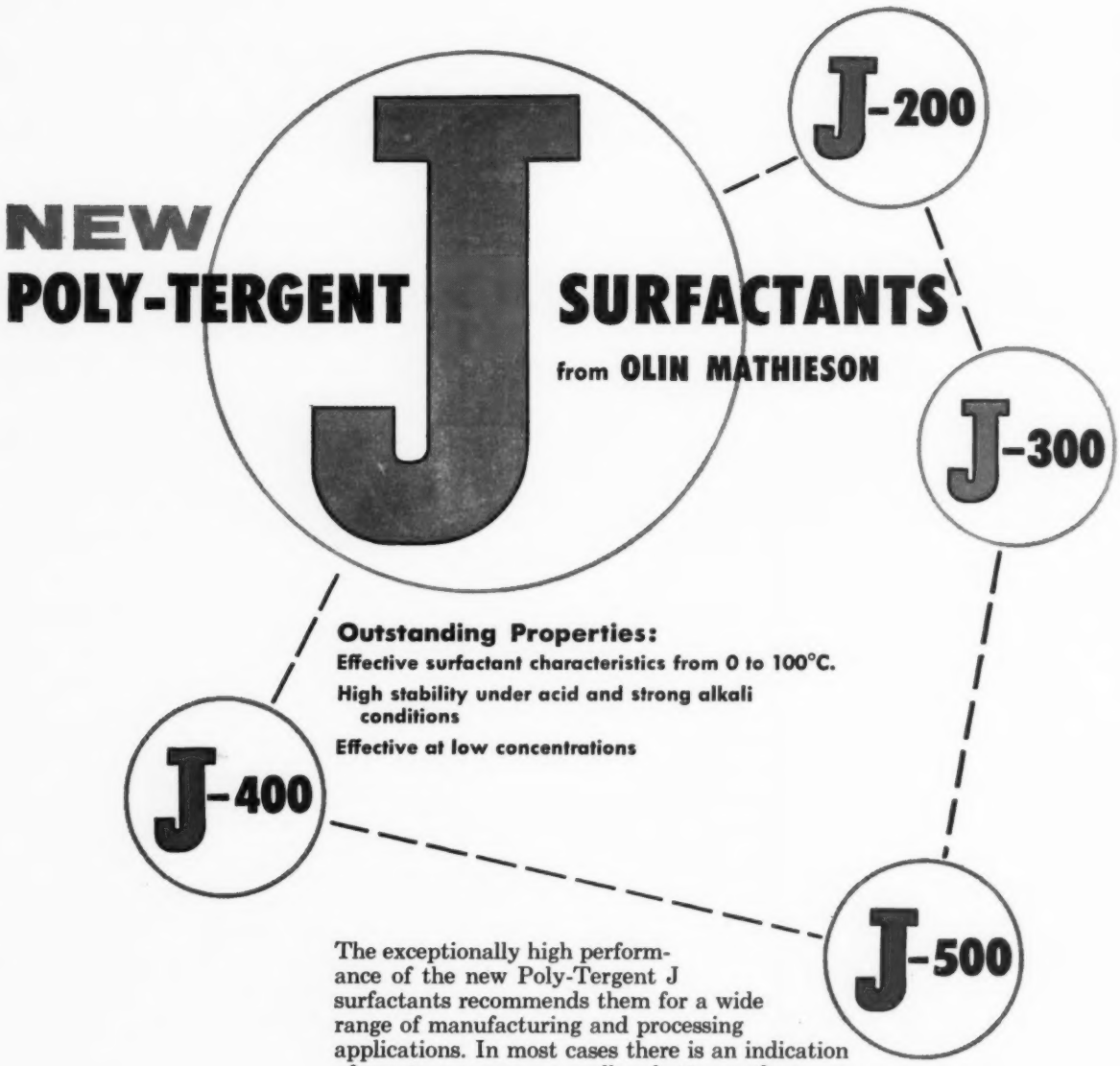
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	Ninol AA62	Lauric diethanolamide foam stabilizer
	Ninol AA62 Extra, Stepan P650	High activity "superamide" stabilizers
	Stepan B153	Ammonium alkyl phenoxy polyoxyethylene sulfate
	Stepan LD55, RB98, Ninex 21	Formulated dishwashing detergents for retail and industrial use
SYNTHETIC FLOOR CLEANERS	Ninol 1281, Stepan ADT	Heavy duty coconut alkylolamides for viscous, nonrusting cleaners
	Ninex 303, Stepanate X & T	Sodium xylene and toluene sulfonate coupling agents
CAR WASHING COMPOUNDS	Ninex 300, Stepan RB98—Ninex 21	Triethanolamine alkyl aryl sulfonate (60%) Foam stabilized concentrates
WAX STRIPPERS, WHITE WALL CLEANERS	Ninex 24, Stepan HDA7	Alkali soluble synthetic detergents
DEGREASERS	Ninate 411	Oil soluble alkyl aryl sulfonate emulsifier
COSMETICS	Stepanol WA, WAT	Lauryl alcohol sulfate shampoo base
	Stepan T-6-B, Ninol AA62	Alkylolamide thickeners
	Ninol CB60, Ninox E50	Opacifiers for liquid cream shampoos
RUG SHAMPOOS	Stepanol T-28	Modified lauryl sulfate—foam stabilized
LAUNDRY DETERGENTS POWDERED	Makon 10, Ninox BJO	Nonyl phenol non-ionic detergent
LIQUID	Stepan DT-20	Potassium alkyl aryl sulfonate plus coupler
MOP TREATMENTS, CUTTING OILS	Ninate 421	High molecular weight sulfonate emulsifier for mineral oils
WATERLESS HAND CLEANERS	Emulsifier WHC	For formulating rinsible hand cleaner gels.
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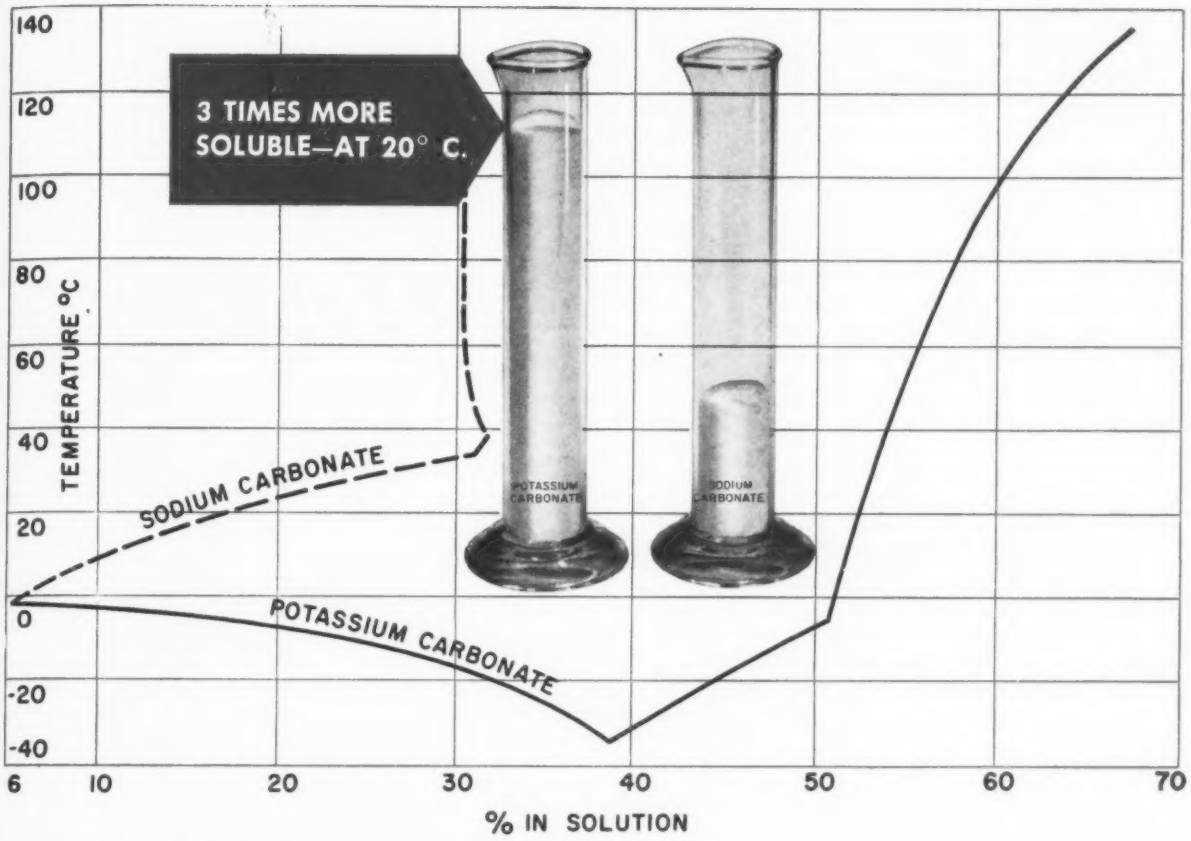
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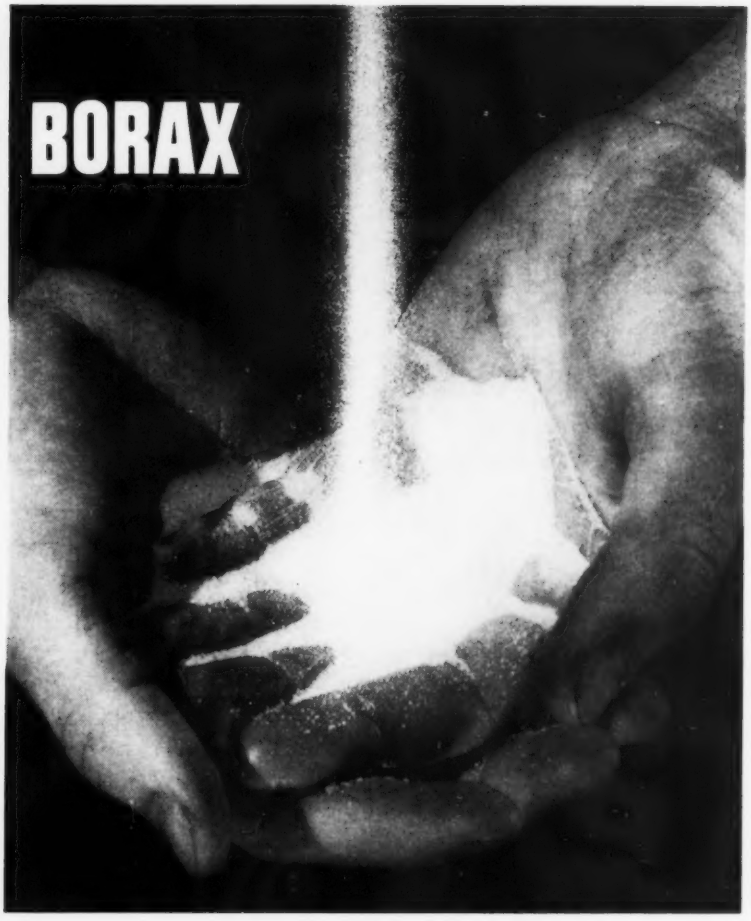
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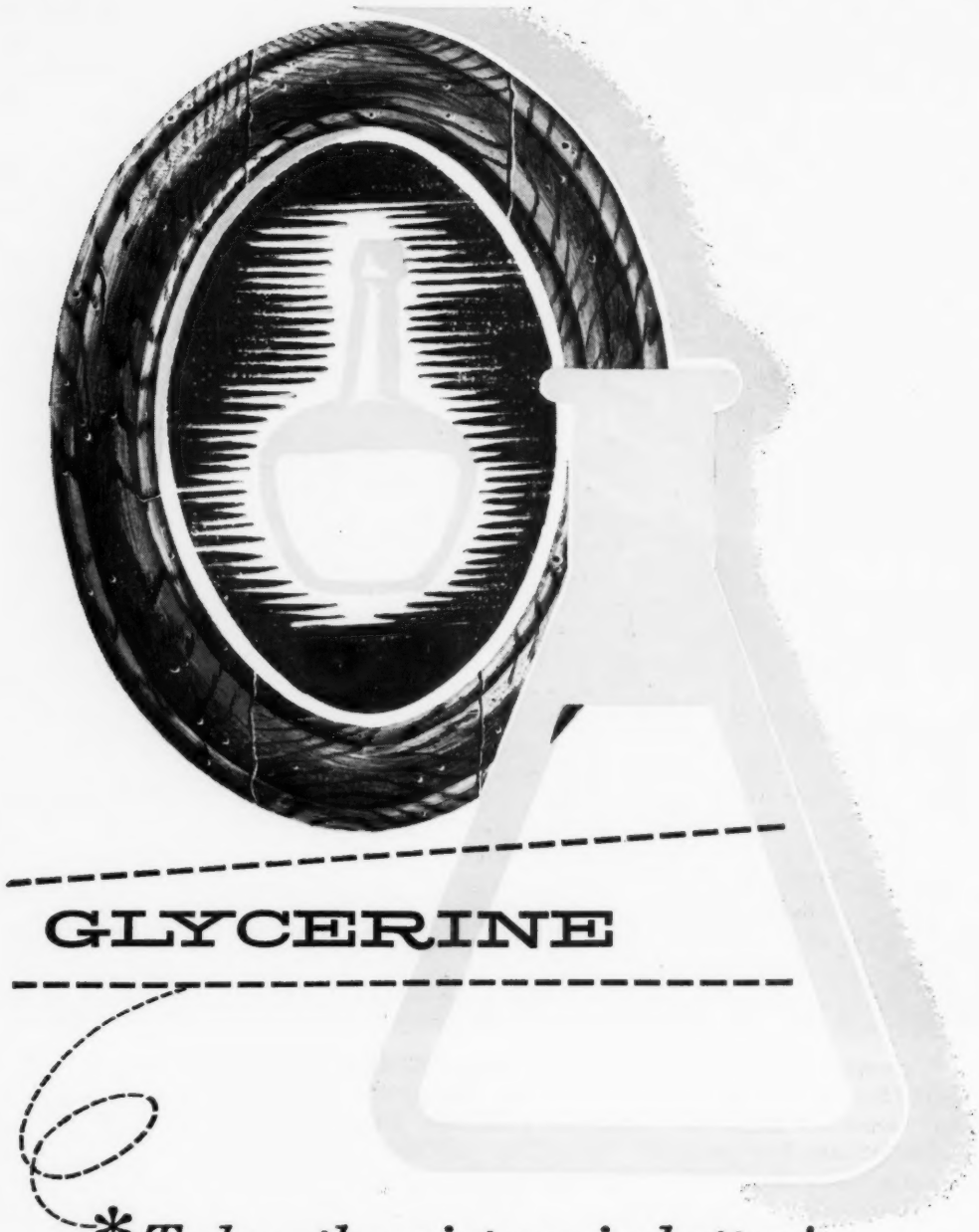
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SHELL

After Closing

Bon Ami Sales Higher

Bon Ami Co., New York, reported an increase in sales and a decline in income for the first nine months of 1957. Sales totaled $4,833,976, compared with $2,834,873, in the similar period a year ago. A net loss of $255,090 was reported for the nine months ended with September. This compared with a net income of $111,233, in the previous year.

—★—

New "Synch" Detergent

A new synthetic detergent for cleaning floors, walls and fixtures, was introduced recently by Peerless Chemical Co., Detroit. Called "Synch," the product is said to work equally well in hard or soft water, and may be diluted in the ratio of 100 parts water to one part detergent. Peerless manufactures a complete line of detergents, liquid hand soaps, floor and metal cleaners, waxes and polishes, disinfectants, insecticides and industrial deodorants.

—★—

Pesticide Label Changes

The U.S. Department of Agriculture has extended the period for its study of proposed changes in the Federal Insecticide, Fungicide and Rodenticide Act through Dec. 31, it was announced last month. An amendment to the act, which covers labeling of commercial pesticides, was proposed by the USDA on Sept. 11. It states that the USDA would consider a pesticide "misbranded" if a label carried "any statement directly or indirectly implying that an economic poison or device, or any ingredient or constituent element thereof, or combination of ingredients, is recommended or endorsed by any agency of the Federal Government.

Interested persons have until Dec. 31 to submit written views, data, or arguments on the proposed amendment to the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act. They may be sent to Plant Control Division, Agricultural Research Service, USDA, Washington 25, D. C.

—★—

New Warwick Polish Wax .

Warwick Wax Co., a subsidiary of Sun Chemical Corp., Long Island City, N.Y., has developed a new polish raw material and is currently expanding its production facilities, it was announced late last month by Maurycy Bloch, general manager and vice-president.

The new material "Cardis Polymer 10", is a hydrocarbon wax derived by a special process developed by Warwick's research organization. Said to be suitable for incorporation in self polishing waxes, resinous floor finishes, heavy duty polishes, and solvent type pastes and liquids, the product has the following specifications: color, 1-1½ N.P.A. (ivory); penetration, 0-1; melting point, 212-216°F; acid No. 8-10; and saponification No. 25-30. The wax imparts to the film a combination of desirable characteristics generally achieved only by combining several ingredients, according to Warwick.

Maurycy Bloch



When introducing the new polymer, Mr. Bloch also announced purchase of additional land adjacent to Warwick Wax's Chanute, Kans., installation. Construction of additional floor space is now underway, Mr. Bloch said, and new production equipment will be installed on or before February 1. One of the products to be turned out in increased quantities at Chanute will be "Polymekon W", which is chiefly used by the packaging industry.

A new sugar cane wax designated No. "511" was also introduced by Mr. Bloch, who said that this product is designed to improve performance and wearing qualities of carbon paper.

—★—

Continental Names Seven

Continental Oil Co., Houston, Tex., recently anounced seven appointments to newly-created positions in its petrochemical sales division. The new appointees are: V. F. Beyer, director of petroleum sulfonate sales; J. W. Jackson, director of sales administration; V. F. Kavanagh, director of detergent sales; D. G. Schreck, domestic sales manager; R. S. Mooney, director of sales promotion; S. W. Harris, midwest regional manager; and G. G. Green, eastern regional manager.

—★—

Pilot Advances Russell

H. B. Russell has been named vice-president of Pilot California Co., Los Angeles, it was announced recently. He succeeds the late Morris Katzman. Mr. Russell formerly was secretary. He will be replaced in that post by Joseph Burris, a partner in the law firm of Dryer, Hails, Burris and Lagerlof.

—★—

SAACI Party Dec. 11

The Salesmen's Association of the American Chemical Industry will hold its annual Christmas Party in the grand ballroom of the Commodore Hotel, New York, Dec. 11. The party will begin at 6:30 p.m. at which time cocktails will be served. Dinner is scheduled for 8 p.m. and will be followed by a floor show featuring "Night in Paris" as its theme.

SOCMA Re-Elects Hooker

R. Wolcott Hooker, senior vice-president of Hooker Electrochemical Co., Niagara Falls, N. Y.,



R. Wolcott Hooker

was re-elected for a third term as president of the Synthetic Organic Chemical Manufacturers Association, at the 36th annual meeting held at the Hotel Roosevelt, New York, Dec. 4.

Samuel G. Baker, general manager of the organic chemicals department of E. I. du Pont de Nemours & Co., Wilmington, Del., was elected first vice-president, while Robert E. Hulse, executive vice-president and general manager of chemical operations for U. S. Industrial Chemicals Co., New York, was named second vice-president. C. K. Egeler, assistant manager of the chemical and dyes division of Sherwin-Williams Co., New York, was re-elected treasurer for a second term.

Elected to the association's board of governors were J. R. Frorer, vice-president of Atlas Powder Co., Wilmington, Del., and R. Kithil, vice-president of Carwin Co., New Haven, Conn. Dr. Elvin H. Killheffer and Dr. August Merz, past presidents of SOCMA, were re-elected honorary members of the board for one year terms.

—★—

Research Firm Relocates

Food Research Laboratories, Inc., Long Island City, N. Y., has changed its corporate name and moved to a new location, it was announced last month. The firm will henceforth be known as Food and Drug Research Laboratories, Inc., and will occupy a new two-story building at Maurice Ave. and 58th St., Maspeth 78, N. Y.

—★—

MCA Pollution Booklet

The Manufacturing Chemists Association recently announced availability of the complete proceedings of its 1957 Air and Water Pollution Abatement Conference. The 131 page booklet contains 14 paper dealing with techniques for biochemical oxidation, assimilation of organic pollutants, developing company interest, and a number of other pertinent subjects.

—★—

WHC New Staley Rep.

Welch, Holme & Clark Co., New York, has been appointed New York representative for A. E. Staley Mfg. Co., Decatur, Ill. Welch will handle Staley's line of edible safflower oil.

Gold-plated glass bottle, a replica of the 10,000,000th bottle of "Vani-Sol" concentrated bowl cleanser, which was produced recently by National Laboratories, Inc., Toledo, was presented to both L. C. Van Nest, National president, and V. L. Van Nest, vice-president, at an anniversary party given by company employees in honor of the two executives. The elder Van Nest has completed 30 years with the company, while V. L. Van Nest has been with the firm for 25 years. The concern recently was purchased by Lehn & Fink Products Corp., New York.



Condon Joins Emery

John A. Condon, Jr., has been appointed textile chemical sales representative for Emery In-



John A. Condon, Jr.

dustries, Inc., Cincinnati, it was announced late last month. He will be responsible for sales of Emery's lines of finishing and processing oils and softeners in New England and the middle Atlantic states. Previously he was assistant superintendent of dyeing for Pacific Mills, Lawrence, Mass.

—★—

New Armour N. J. Facilities

New warehouse and office facilities were opened recently at Lodi, N. J., by Armour and Co., Chicago. The installation, specially built for Armour and occupied under a long term lease, consists of two warehouse and office buildings, two anhydrous ammonia storage tanks and four aluminum bulk fatty acid tanks.

Each building is one story in height, of brick, concrete and steel construction. The first unit contains 18,000 square feet of floor space and is used by the ammonia and chemical division. In addition to the office and warehouse space, it houses ammonia cylinder filling equipment. The structure has loading dock facilities for seven trucks.

The second building contains 30,000 square feet of floor space and is occupied by the adhesive, coated abrasives and cushioning products divisions.

The new installation, which

is equipped with a 10-car railroad siding, replaces Armour Auxiliaries, the firm's former eastern headquarters located at North Bergan, N. J.

★

Reichhold Resin Data

"Waterez 1550" and "1551" alkali soluble resins for floors products are described in eight-page technical bulletin SC-25, published recently by Reichhold Chemicals, Inc., White Plains, N. Y. Both materials are hard friable synthetic resins, almost water white in color. Chemically they are modified alkyds resulting from esterification of phthalic anhydride with polyols. High resin content wax polishes formulated with "Waterez" are said to be free from water spotting, to show no change in removability after aging on the floor, to have good color properties and resistance to blocking in bag storage.

In addition to properties and uses the bulletin gives directions for the preparation of resin solutions, wax emulsions, resin/wax polish combinations, and "Waterez"/vinyl polymer polish formulations.

Self polishing floor wax consists of an alkali-dispersible resin, an emulsified wax, and water. So that the mixture will be self-leveling and thus produce a high gloss without rubbing, up to 80 per cent resin is used.

"Waterez" resins can be used also to impart self-polishing properties to spray shoe dressings.

★

In New Shulton Post

Roy Ziegler has been named production chief of the Clifton, N. J. plant of the fine chemicals division of Shulton, Inc., Clifton. Mr. Ziegler, who had previously been production manager at the division's Newark, N. J., plant, will continue in that post. He joined Shulton in 1948 as head of the chemical department and was made purchasing agent for the chemical division in 1953. He was named production manager at Newark in 1955.

Pampel of Dragoco is 70

Carl Wilhelm Pampel, chief perfumer of Dragoco, Ltd., German aromatics house, celebrated



Carl W. Pampel

his seventieth birthday on Dec. 6. A perfumery chemist since 1911 when he joined Heine & Co., in Leipzig, he headed the perfumery department of that firm until 1950. Heine's facilities, largely destroyed in World War II, are located in Leipzig in the Eastern Zone. At the age of 62 Dr. Pampel emerged from behind the Iron Curtain and offered his experience and skill to Dragoco, who appointed the internationally known scientist as chief perfumer. At 70, Dr. Pampel is in good health and pursuing his highly creative career.

★

New Hooker President

Thomas E. Moffitt was elected president of Hooker Electrochemical Co., Niagara Falls, N. Y., late last month. He succeeds Bjarne Klaussen, who is retiring but will remain on the board of directors.

At the same time, Hooker reported that Ansley Wilcox II, secretary and general counsel, was elected a vice-president. Thomas F. Willers, comptroller, was named a vice-president and treasurer. Both men will continue in their former capacities.

Mr. Moffitt joined the company in 1930 at the Tacoma, Wash., sales branch. He later became assistant western sales manager and in 1950 was named assistant works manager of the Tacoma plant. He became works manager in 1951 and a year later was appointed western manager. He was elected vice-president in charge of western operations in 1954 and has been executive vice-president since 1956.

With Hooker since 1941 when he was named secretary, Mr. Wilcox has been general counsel since 1952. Last February he was named assistant treasurer.

Mr. Klaussen, who joined Hooker in 1916, has been president since 1955. Among his positions have been Niagara Falls plant superintendent, works manager, vice-president in charge of production, and executive vice-president. He will remain a director of Hooker Chemicals, Ltd., and of Marble-Nye Co., both Hooker subsidiaries, as well as a vice-president of the former.

★

Extend TGA Ad Service

The Toilet Goods Association late last month announced that the services of its Bureau of Standards on copy review is now available to all firms in the industry. Previously, the board's services had

T. E. Moffitt



B. Klaussen



A. Wilcox II



T. F. Willers



been available only to TGA members. Established 20 years ago, the B of S reviews both advertising copy and labeling statements and returns same to the manufacturer stamped either "approved," "approved with corrections," or "not acceptable."

S. L. Mayham, executive vice-president of the group, said that no copy, either advertising or labeling, which has been approved by the board, has ever been made the subject of a case by the Food & Drug Administration or the Federal Trade Commission.

He added that the change in policy was occasioned by the increasing growth of borderline, or directly misleading advertising by certain members of the industry. In view of the deep concern voiced in recent months by the FDA and FTC as to advertising practices in the cosmetic field, Mr. Mayham has suggested that the industry itself engage in a policy of "self policing," and the elimination of claims which have been exaggerated. In addition, he advocated the use of the many truthful claims which should be a part of the advertising of all toilet preparations.

The TGA board consists of the association's executive vice-president, scientific director and general counsel. No manufacturer is a member of the group and no company has access to the copy file of the board. All information submitted to the B of S is held in strict confidence, according to the announcement.

—★—

Cites Aerosols' Growth

Development of "Freon" propellants led to the growth of pressure packaging from a mere handful to more than 150 types and packages of products in a little more than a decade. This example was cited by Samuel G. Baker of E. I. du Pont de Nemours & Co. to illustrate the profound changes and technological advances which may be caused in a number of fields by scientific discovery in one area. Mr. Baker, general manager of du Pont's organic chemicals department, was addressing the Personnel Mangement Conference in Seattle, Wash. His subject was "Dimensions of Technological Change."

"Technological change is the way we achieve human progress. Now, as to the dimension of technological change, in my opinion 'we ain't seen nothing yet'" said Mr. Baker. "Du Pont alone will spend eighty million dollars on research in 1958. But to develop new and better products, new and less costly methods of manufacture and more successful sales techniques, is not enough."

Soap Assn. Meets Jan. 22-24 in New York

TYING in with the current concern over scientific developments in Russia *vis-a-vis* the United States the theme selected for the 32nd annual convention of the Association of American Soap & Glycerine Producers is "The Acceleration of Change." The 1958 meeting, which is to be held at the Waldorf-Astoria Hotel, New York, Wednesday, Thursday and Friday, January 22, 23 and 24, will open with an all-day meeting of the Fatty Acid Producers' Council. In addition to morning and afternoon sessions at which technical papers will be presented, there will be a group luncheon at which the fatty acid awards will be presented. This will be followed by an address. The cocktail party sponsored by *Soap & Chemical Specialties* magazine will conclude the activities of the first day of the meeting.

A general session, Thursday morning, Jan. 23, will be highlighted by the president's address of welcome and annual report by E. B. Osborn, head of Economics Laboratory, Inc., New York, and the report of the Soap Association's secretary-manager, Roy W. Peet. The convention theme will be discussed by J. Lewis Powell of the Department of Defense. His talk is entitled, "The Collapse of Time." Also scheduled for Thursday morning's session is the annual report on grocery store sales of soaps and detergents by a representative of A. C. Neilsen Co.

A group luncheon on Thursday will hear from Daniel Schorr, CBS Moscow correspondent, who arranged for the TV interview with Russia's Nikita S. Khruschev. The annual glycerine awards will be presented also at the Thursday luncheon.

The Industrial and Glycerine Divisions are expected to convene on Thursday afternoon for presentation of papers, election of officers and a discussion of future plans.

Thursday's concluding program feature is the Maid of Cotton Fashion show.

Friday morning's general session will hear from Dr. Harry Deane Wolfe, former Colgate-Palmolive Co. market research man, who will discuss the effectiveness of advertising, brand loyalty, etc. Also scheduled to be heard at this session are Arno Johnson, in charge of market research for J. Walter Thompson advertising agency; Samuel H. B. Burk of Rogers, Slade and Hill, and William G. Werner, director of public relations and legal services of Procter & Gamble Co.

A discussion of the educational system in the United States is set for the Friday luncheon. The speaker is to be announced shortly.

Concluding the convention will be the annual banquet and floor show Friday evening, Jan. 24. This year's sponsor is the American Broadcasting Co.

As a result of personnel changes in the industry two new men have been appointed to the board of directors of the Soap Association. Succeeding Neil H. McElroy, former president of Procter & Gamble Co., who has become Secretary of Defense, is Howard J. Morgens, new P&G president. Ralph A. Hart, executive vice-president of Colgate-Palmolive Co., joins the board, succeeding W. L. Sims, II, retired president of Colgate.



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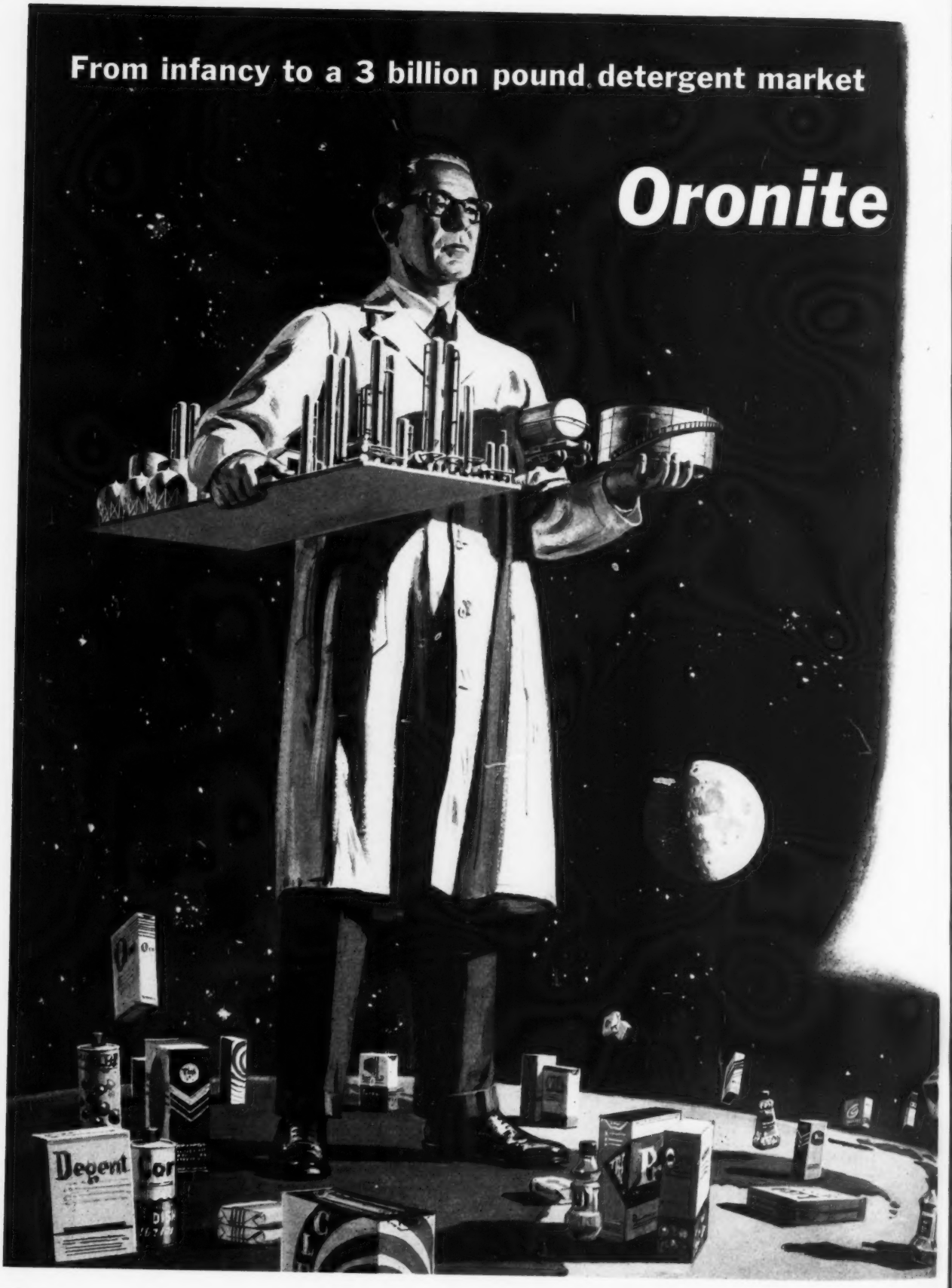
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TREPOLATE F-40 or P-40 — *sodium dodecyl benzene sulfonate — flake/powder 40% active* — uniform particle size — custom made to fit your specifications.

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TREPOLATE F-95 — *sodium dodecyl benzene sulfonate — flake — 95% min. active.* Highest purity — practically salt-free — excellent emulsifier.

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TREPENOL WAT — *TEA lauryl sulfate — liquid — 45% active* — low cloud point — excellent detergent for liquid clear shampoos.

TREPENOL AM — *ammonium lauryl sulfate — liquid — 30% active* — for use in acid pH shampoos — good color and odor.

TREPENOL EP — *DEA lauryl sulfate — liquid — 40% active* — good color stability — low cloud point for liquid clear shampoos.

TREPENOL MG — *magnesium lauryl sulfate — liquid — 30% active* — excellent for rug cleaning formulations — has good suspending properties — dries to a powder — can be easily vacuumed.

TREPENOL E.O. ACID — *nonyl phenol polyglycol ether sulfuric acid* — a recent development of TREPLOW laboratories — a relatively stable sulfuric acid designed for liquid dishwashing compounds — affords greater versatility in formulating — labor and time saving, not to mention, storage — lends itself to greater concentration of end product.

TREPENOL A-60 — *ammonium nonyl phenol polyglycol ether sulfate — 60% active* — for use in liquid dishwashing compounds — gentle to hands — good foamer — excellent detergency — acid pH.

TREPENOL S-40 — *sodium nonyl phenol polyglycol ether sulfate — 40% active* — for alkaline based liquid dishwashing compound — high foamer — excellent detergency.

TREPENOL T-100 — *TEA nonyl phenol polyglycol ether sulfate — 100% active* — highest concentrate possible only through TREPLOW research — inorganic salt free — economical.

TREPENOL S-30-T — *sodium tridecanol polyglycol ether sulfate — 30% active* — based on a synthetic "lauryl" alcohol — low cloud point — compatible, to a degree, with cationics — excellent shampoo base — foams better in hard water than in distilled water.

TREPENOL T-100-T — *TEA tridecanol polyglycol ether sulfate — 100% active* — anhydrous product — excellent emulsifier and coupler — extremely mild.

TREPOLINE 505 — *DEA fatty acid condensate* — most economical of all fatty acid alkanolamides — auxiliary emulsifier and thickener — low foamer.

TREPOLINE CN-61 — *DEA cocoanut oil condensate* — recommended for floor cleaners — heavy duty type.

TREPOLINE L — *DEA lauric acid condensate* — excellent foam stabilizer for anionic detergents.

TREPOLINE LM-46 — *DEA lauric acid condensate — concentrate* — high concentration of TREPOLINE L — excellent for foam and viscosity control.

TREPOLINE S-4 — *DEA cocoanut oil condensate* — light in color — good foam stability — humectant properties.

TREPOLINE M-3 — *DEA cocoanut oil condensate — concentrate* — higher concentrate of S-4 type — chemically compatible with quaternary ammonium compounds.

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Nonionic Reagent forms a turbidity with nonionic surfactants which is the basis of the method of analysis.



PROCEDURE:

Prepare an aqueous solution of the sample to be analyzed at a concentration of 0.01-0.5% w/v active nonionic.

1. **Place 5 ml Nonionic Reagent in a 25-ml graduate.**
2. **Add with volumetric pipette 1-5 ml of the nonionic sample to be analyzed.**
3. **Fill graduate with water to 25 ml, mix well, and let stand.**
4. **After 10 minutes, compare turbidity with that of standards of known concentration prepared by the same procedure.**

Details of the method are given in the Analytical Procedure accompanying each bottle.

Nonionic Reagent is available at a nominal charge of $2.00 per quart bottle to cover the cost of standardizing, packaging, and shipping.

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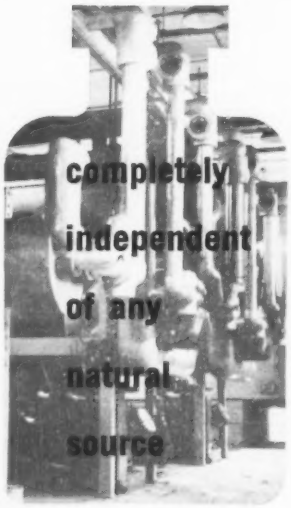
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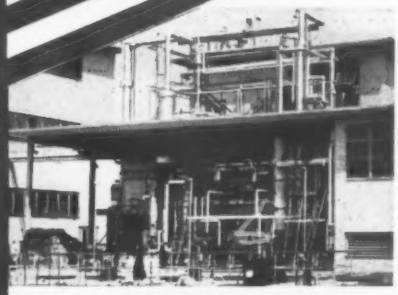
Detailed information on each product will be furnished on request.



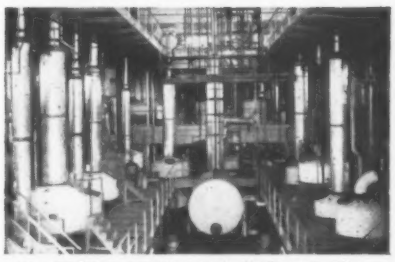
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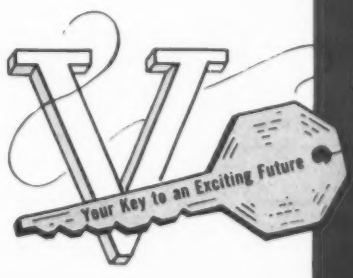


There is "*one*" fragrance to make your product "*different*" . . . one "*unique*" fragrance that you must be looking for.

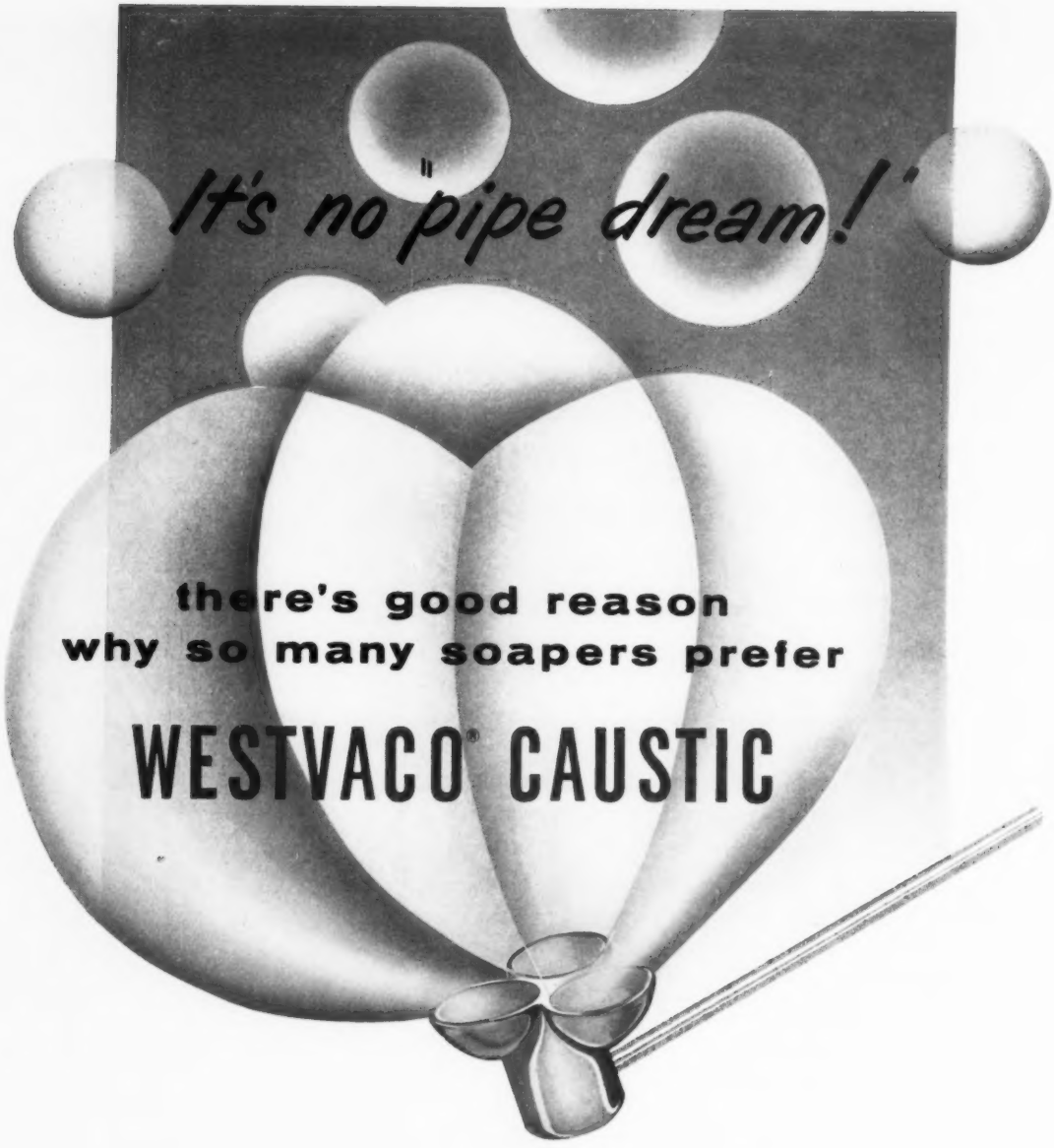
Fragrances are like personalities . . . if original — they are remembered! Our talent is devoted to providing the answer to the question "*how unique can you get?*"

SEND FOR SAMPLE *SA — 362 . . . 14.00 per lb*

Albert Verley & Company
1375 EAST LINDEN AVENUE, LINDEN, NEW JERSEY
1018 S. WABASH AVENUE, CHICAGO 5, ILLINOIS
21 EAST 40th STREET, NEW YORK 10, NEW YORK
MEFFORD CHEMICAL CO.
1026 SANTA FE AVE., LOS ANGELES 21, CALIF.



ALBERT VERLEY & COMPANY
Synthetic Aromatic Products and Organic Isolates • Synthetic Flower Oils and Aromatic Bases • Bouquets and Finished Compositions



CAUSTIC SODA

Liquid 73%
Liquid 50%, Regular
and Low-Chloride Grades
Flake, Solid and Ground, 76% Na_2O

CAUSTIC POTASH

45% and 50% Liquid
Flake and Solid

Westvaco quality results from the unexcelled efficiency of our recently expanded caustic-chlorine operation —the newest and most modern facility in the industry.

Production is carried out under precise automatic-instrument control to maintain uniform shipping specifications, to be sure Westvaco Caustic consistently betters the industry "average" or "typical" analyses.

From South Charleston, W. Va. we offer fast service by rail, waterway or truck throughout the East and mid-West with a range of forms and packaging to suit your needs.

We will be glad to quote on your contract or spot requirements.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
Westvaco Chlor-Alkali Division
General Sales Offices:
161 E. 42nd STREET, NEW YORK 17

CYQUEST 40*

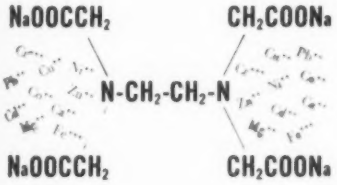
Ties Up Trouble . . . unravels product problems

Too often, product quality is affected by troublesome metal ion contaminants that spoil color, cause turbidity, catalyze degradation reactions and make a general nuisance of themselves—even when their presence is measured in parts per million. CYQUEST 40 seeks out these di- and tri-valent ions and ties them up securely as soluble chelates that are exceptionally stable. So stable, in fact, that you can forget about these metal ions and the problems they cause – through processing, packaging, shipping and product application. In short, you can forget them altogether.



What, Exactly, Is CYQUEST 40?

The answer is given quite completely in a data sheet (see coupon offer below) that details properties, solubilities, and the sequestering characteristics of CYQUEST 40. Here, we will just say that it is a 40% aqueous solution of the tetrasodium salt of ethylenediamine tetraacetic acid. This clear solution is completely stable under storage conditions and is not decomposed by acid



or alkali, even at elevated temperatures. In fact it takes strong oxidizing reagents such as permanganate or dichromate to even make a dent in its sturdy molecular structure.

Doubly Basic

CYQUEST 40, as sold, is a basic solution – but we don't consider that to be very exciting news. What is important is that Cyanamid is basic in the production of tetrasodium ethylenediamine tetraacetate. As a result, no matter what your present or future requirement may be, you can rely on Cyanamid for continuous supply and prompt customer service.



Like the giant who could find his foes in the dark, CYQUEST 40 will find those multivalent metal ions – and fix them for good. Fi+++, Fo+++, Fum+++, our imaginary ions, would be ably taken care of by CYQUEST 40, for that's the nature of the beast. Maybe you can think of these as being the not-so-imaginary metallic ions that are sabotaging your product quality. A little CYQUEST 40 will do the giant-killing trick and your product can live happily ever after!

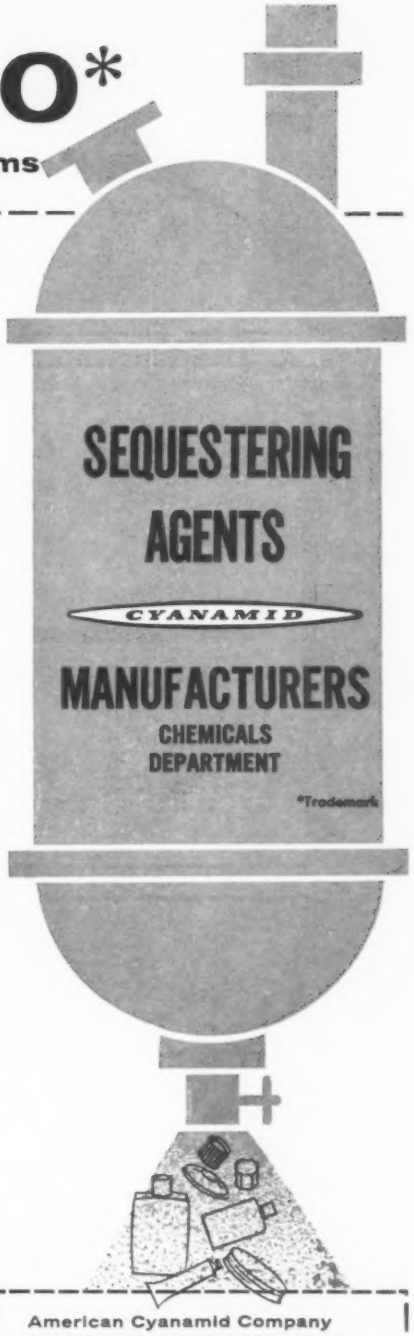
Designed for Your Convenience

Take your choice! Both the 15- and 40-gallon Liquipaks are polyethylene lined to keep CYQUEST 40 as clear and as pure as the day it was made. Metal bung parts are polyethylene lined, too. Laboratories and pilot plants will be particularly pleased with the convenience of the 15-gallon drums, for they have a collapsible, capped, flexible polyethylene spout that insures every drop reaching its objective . . . and not the floor. Both drum sizes are easily stacked, and you can count on full quality retention through storage. And, oh yes . . . Cyanamid is the only supplier of EDTA sequesterants using them.



Interested?

Then send for the data sheet or a sample by sending us the coupon below. Orders for drums will, of course, be gratefully accepted, too! In any case, you can count on our laboratory people and field men to offer all the help they can in the application of sequestering techniques to your product or process problems.



American Cyanamid Company
Manufacturers Chemicals Department
30 Rockefeller Plaza, New York 20, N.Y.

Gentlemen:
Please send me
- ☐ Data Sheet on CYQUEST
- ☐ Sample of CYQUEST

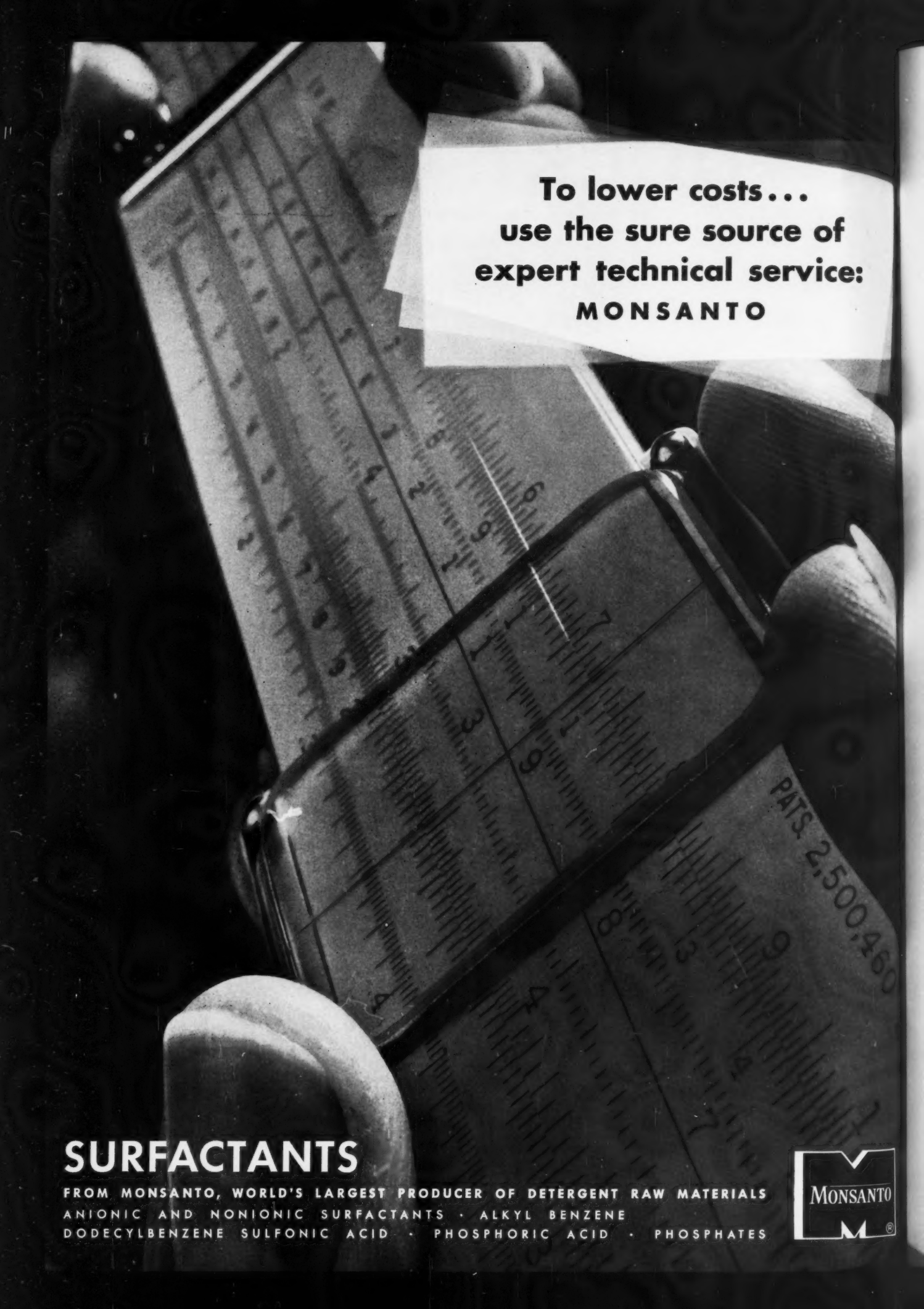
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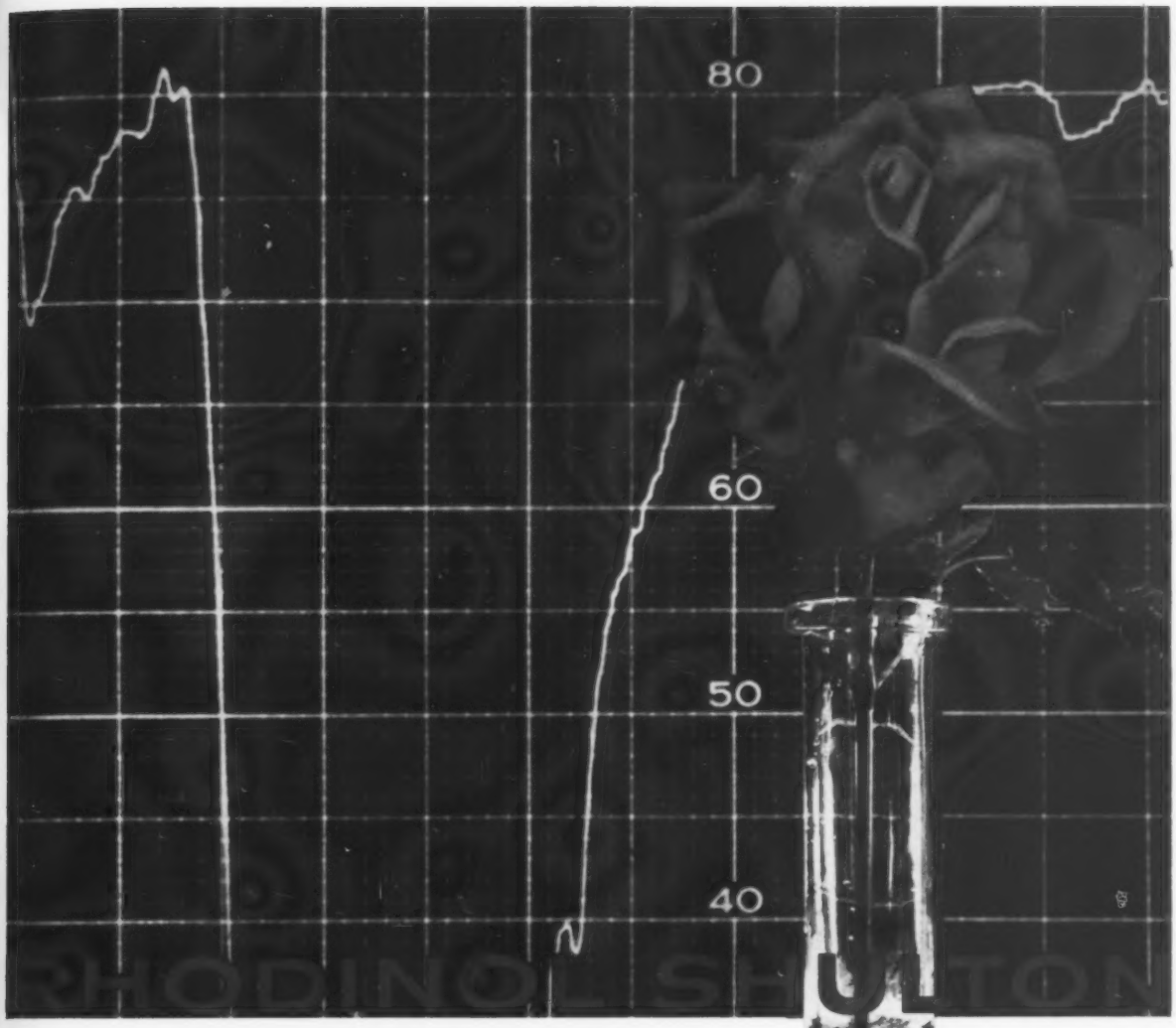
Company_____

Address_____

City_____ Zone____ State_____

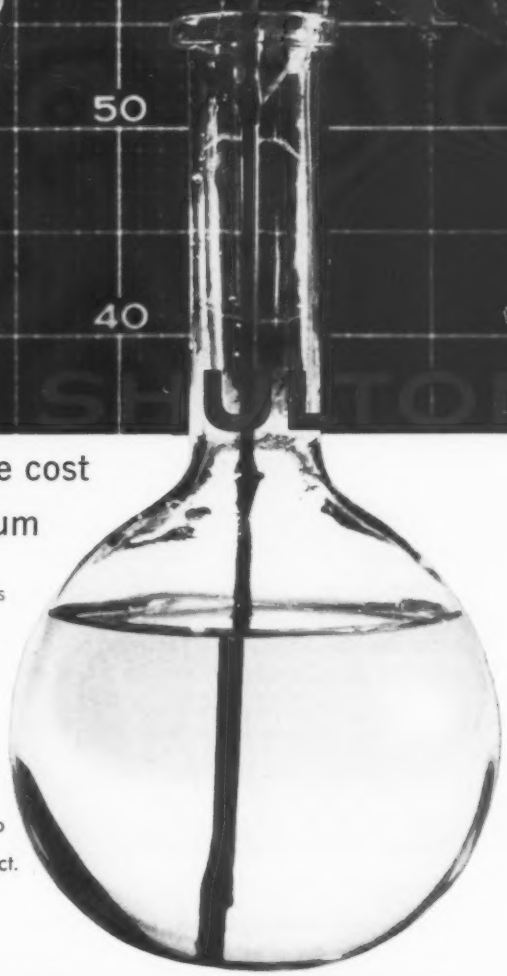
In Canada: North American Cyanamid Limited
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use the sure source of
expert technical service:
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PATS. 2,500,460
SURFACTANTS
FROM MONSANTO, WORLD'S LARGEST PRODUCER OF DETERGENT RAW MATERIALS
ANIONIC AND NONIONIC SURFACTANTS · ALKYL BENZENE
DODECYLBENZENE SULFONIC ACID · PHOSPHORIC ACID · PHOSPHATES
MONSANTO



superb rose effects at half the cost of rhodinol ex-geranium

Rhodinol Shulton is superior to ordinary rhodinols in its freshness effect . . . its blending power . . . its compatibility with the finest perfume materials . . . and its stability in soap. • Shulton's advanced research combined with the perfumer's artistry makes possible this rhodinol of finest quality and constant character. And you can rely on the quality of Rhodinol Shulton because it is free of impurities, free of batch-to-batch variations. • Specify Rhodinol Shulton to procure these superb rose effects at only half the cost you might expect.



SHULTON FINE CHEMICALS

DIVISION OF SHULTON, INC., 630 FIFTH AVE., NEW YORK 20, N. Y., CIRCLE 5-6263

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You'd have to go a long way to find these properties



...so specify NOPCO HYONICS

HYONIC PE 250

(100% active nonionic alkyl aryl polyether alcohol)

Gives high, persistent foam

Effective over wide range of water hardness and pH

Excellent wetting agent and emulsifier

Extremely stable in presence of acids, alkalis, inorganic salts including heavy metal salts

A powerful detergent

Suggested uses—dairy detergents and milkstone remover, car wash, antiseptic sanitizer, paint and woodwork cleaner

HYONIC FS

(100% active lauric acid alkylolamide condensate)

Superior foam stabilizer for anionics

Remarkable thickening action over a wide range of concentrations

Non-corrosive—can be stored indefinitely

Excellent detergent and wetter and shows remarkable synergism when blended with anionics or nonionics

Suggested uses—liquid dishwasher, clear liquid shampoo, bubble bath

No, it isn't necessary to explore the universe for your detergent aids since Nopco Hyonics will undoubtedly provide just exactly the properties you need and Nopco technical men will work right with you to help you produce detergents of your own specifications.

Write today for complete data on Nopco Hyonics.
Nopco Chemical Company, Harrison, N J

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PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
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A winning combination of properties for your product!



SOLVAY®

Aluminum Chloride • Chlorine
Potassium Carbonate • Soda Ash • Sodium Bicarbonate
Sodium Nitrite • Caustic Soda
Caustic Potash • Snowflake® Crystals • Ammonium Chloride
Methylene Chloride • Methyl Chloride • Monochlorobenzene
Ammonium Bicarbonate • Carbon Tetrachloride • Hydrogen Peroxide
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Paradichlorobenzene • Chloroform
Calcium Chloride

Whatever your product—from basic household or industrial cleanser to luxury bath preparation—SOLVAY's superior forms of sesquicarbonate of soda afford you a combination of advantages found in no other alkali. Available in two virtually dust-free granulations—Snowflake or Snowfine.

Mail now for full facts, sample!

Allied Chemical

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL & DYE CORPORATION
61 Broadway, New York 6, N. Y.

Please send at no cost

☐ Snowflake Crystal sample ☐ Snowfine sample
☐ Snowflake fact book ☐ Data on how Snowflake can help my operation, described in attached letter.

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BL-12

... about detergents



SOAPS AND DETERGENTS

SYNTHETIC DETERGENTS



by E. G. Thomssen and John W. McCutcheon

by John W. McCutcheon

THE latest and only complete American book on soap and detergent manufacture. This 511 page practical text is designed for the production man, chemist or executive and covers such subjects as soap making methods, equipment and machinery, raw materials, perfuming and coloring, glycerine recovery, and properties and applications of finished soap and detergent products. No soap or detergent laboratory, plant or office should be without this standard volume.

A PRACTICAL 435 page book concerned primarily with the detergent compounds. Defines the various types of synthetics as to class, manufacture, application and processing. Presenting an adequate theoretical background on fundamentals of surface activity in addition to a thorough analysis of the raw materials and manufacturing processes involved, this text will be of interest to all those involved with the manufacture, packaging, application and processing of detergents as well as those supplying raw materials.

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Add 3% sales tax if in New York City

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Enclosed is our check for $..... Please send the following book(s):
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RENEX® Reports

CHEMICALS DIVISION
ATLAS POWDER COMPANY, WILMINGTON 99, DELAWARE
Atlas Powder Company, Canada, Ltd., Brantford, Ontario, Canada

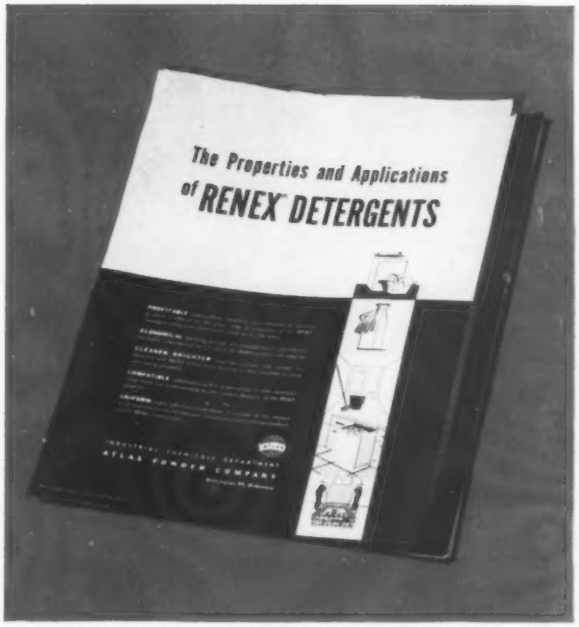
New Renex File Folder simplifies your choice of detergents

This folder describes the various non-ionic RENEX detergents: the RENEX 20 series (esters); the RENEX 30 series (alcohol ethers); and the new RENEX 600 series (nonyl phenol ethers).

And here's where the time-savings come in—we have charted the entire group so you can see cloud point, interfacial tension, wetting time, foam height, solubilities and other characteristics at a glance. Another chart steers you to the RENEX product recommended for washing cotton, wool, or man-made fibers, and for use in eight different applications from home laundry compounds to rug shampoos.

Next time you need to select a detergent for a specific cleaning formula, you'll find the job is a lot easier if you consult the new folder of properties of the RENEX series of detergents.

In addition, the File Folder is designed so that you can use it as a convenient place to keep the new formulating bulletins that will soon be available. Write for your copy today.



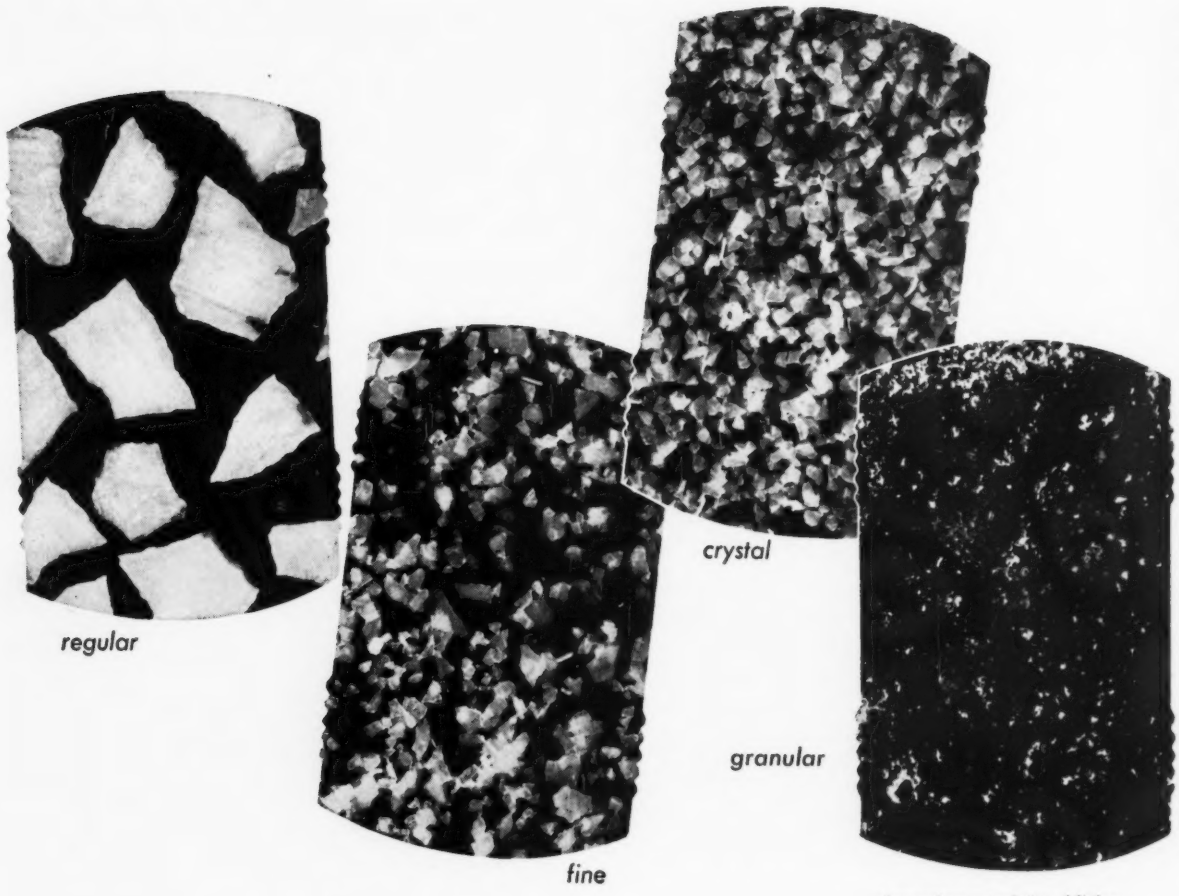
How to stabilize detergent sanitizers



A product that both cleans and sanitizes makes a big hit with dairies, restaurants and other users that demand hygienic cleanliness. One stumbling block often arises; the quaternary ammonium compounds that do the sanitizing job don't get along with soaps and sulfonates.

The answer: use RENEX non-ionics as the sole detergent ingredient. These materials are perfectly compatible with "quats" . . . and let you add your sanitizing agent in any liquid or solid RENEX formula. RENEX 690 works fine to provide a low-foaming formula . . . or if you want more foam, you can use RENEX 30.

We'll be glad to send you samples of RENEX materials for your lab evaluation, and to suggest guide formulas to get your development off to a fast start. Just write to Atlas today.



photos show actual size of flakes

Flake caustic soda: pick the size that's right for YOU



ASK FOR THIS NEW DRUM when you order. Larger opening is a full 18 inches across—65% more area than conventional 14-inch drum—for easier pouring, scooping, shoveling. Get practically all the advantages of a full-open-head drum—without paying premium price.

Choosing the right size caustic soda flake will help keep your product at its uniform best. With these four Hooker flake sizes to choose from, you're sure of getting one or more sizes exactly right for you.

Which Size Should You Use?

Drop us a note and we'll send you samples and technical data to help you determine which of these Hooker flake sizes is your best buy.

If you use less than carload lots, ask your Hooker jobber to stock the sizes you need. (If you are not familiar with the Hooker jobber in your area, we'll be glad to send you his address.)

HOOKER ELECTROCHEMICAL COMPANY
112 UNION STREET, NIAGARA FALLS, N. Y.

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES

HOOKER CHEMICALS PLASTICS

PILOT HD-90
DETERGENT FLAKE

MORE SUDS FOR YOUR MONEY

HD-90 helps you to build more suds into your detergent products than any other material at a competitive price. And more sudsing power means greater consumer acceptance.



HD-90 works fine even in hot, humid weather: all-weather protection to keep production rolling along in high gear. All-weather protection for your products, too.

HD-90 is purer—contains more active ingredient and less sulfate—it's hardworking, yet odorless and whiter in color. HD-90 is dust-free and dry flowing.

The uniqueness of Pilot's new standard of purity is in the *Cold Processing:* eliminated are the undesirable characteristics; built in are the cleansing and foaming character.

HD-90 has greater versatility as a result of its higher concentration, an advantage in formulating: *Automotive Cleaners, Dishwashing Compounds, Household Cleaners, Steam Cleaners, Bubble Baths, etc.*

For products with the highest sudsing and cleansing power for your money—investigate Pilot HD-90. Packed in polyethylene-lined fibre drums and 5-ply paper bags. Formulas and samples yours for the asking. Write:



PILOT *California Co.*

215 WEST 7th STREET • LOS ANGELES 14, CALIFORNIA

Manufacturers of
Sulfonic Acid
Dodecyl Benzene Sulfonates
Sodium Toluene Sulfonate

to make any mixture a better mixture

all signs point to *Nacconol*®



Fourteen different physical forms of NACCONOL . . . the pioneer detergent . . . to fit every need of the industry.

Currently, special interest is on:

NACCONOL DBX

Unique, *super-dense* bead. The first 40% active alkyl aryl sulfonate that is as dense as most flake materials. Dustless, free-flowing, non-caking. Easier handling. More salable mixes.

NACCONOL SL

The outstanding liquid detergent. Looks clean, smells clean. Excellent foaming. Very low haze-point. Emulsifies grease and oil. Compatible with anionic and non-ionic materials.

Samples of all of the NACCONOLS are readily available. Your request will be filled promptly.

Nacconol

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ALLIED CHEMICAL & DYE CORPORATION

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Allied Chemical



FANCY

POLYNESIAN'S NOSE

Strange adornments like bones thrust through the nostrils have a very special meaning to a Polynesian.

Since many primitive men believe the nose is the gateway by which the soul can leave the body, or demons can enter, they blockade the nose with these safeguards.

THE NOSE – FANCY AND FACT

FACT

PFW'S NOSE

Demons or no demons, we'd be willing to wager a sou or two that the aforementioned gentlemen would quickly remove the "blockades" if they even got a whiff of one of PFW's modern fragrance specialties . . . "nose openers" if there ever were any.

Would you like a little whiff yourself? You might find it very useful to your business. Glad to oblige.

PFW

for odor and taste

POLAK'S FRUTAL WORKS INC., MIDDLETOWN, N. Y.

AMERSFOORT, HOLLAND • PARIS, FRANCE • BREMEN, GERMANY • BRUSSELS, BELGIUM • SOFLOR LTD. - PERIVALE, ENGLAND

In "Bleach and Blue" Detergents, Too
THE KEY IS CMC

More than just a detergent, "News" bleaches and blues clothes as it removes stubborn dirt, yet is safe for any fabric. In this detergent "plus," the dirt-suspending properties of Hercules® CMC float dirt particles down the drain. When CMC is included in a detergent formula, dirt is always rinsed away, never redeposited on clothes.

If you haven't investigated the advantages economical Hercules CMC can bring to your commercial or home laundry product, write today. Hercules will be glad to furnish complete technical information and a testing sample.





◀ **NEW BLUE "NEWS"** is "safe for everything washable" according to its manufacturer, The Purex Corporation Ltd., 9300 Rayo Avenue, South Gate, Cal. Detergent is packed in convenient 1 lb. 2 oz., and 2 lb. 7 oz. packages.

Virginia Cellulose Department
HERCULES POWDER COMPANY
INCORPORATED
900 Market Street, Wilmington 99, Delaware

. . . in brief

INSECTICIDES. . . . Salesmen for insecticide manufacturers, we have a hunch, are soon to find out that a lot of dealers carried over a lot of insecticides from last season. Some have already found it out in their journeys here and about in behalf of selling new insecticides for the 1958 season. And because last year was generally a poor one for retail insecticide sales, dealers may be slow to commit themselves for new products for 1958. Because insecticide sales were lousy one year, the average retailer figures that they will also be just as lousy the next. That's the way retailers usually figure.

Then along about June-July, or even earlier in the South, the bugs hit quick and fast, and their stocks are cleaned out before they know it. Now we didn't say this positively would happen, but based on the law of averages, it could happen. And then the dealer just as quick and soon as the bugs hit wants insecticide stock replacements. And he wants them shipped yesterday by the manufacturer or local jobber. T'was ever thus. It's happened before and it will happen again. About all the insecticide manufacturer can do is grin and bear it.

* * * * *

AEROSOL LABELS. . . . Just about fifteen per cent of all entries in the 1957 annual CSMA aerosol package contest never got to be viewed by the judges. They were eliminated by the committee even before the judging took place. Improper labeling was the cause, chiefly the omission of the required precautionary statements. Several were products of well-known manufacturers sold on a national scale. Although the rules for safety labeling are well known and their significance explained on contest entry blanks, the products in question had no precautionary statements on their labels. The committee had no choice but to disqualify them.

The import of these label omissions goes far deeper than the mere possibility of winning a packaging contest. Each product improperly labeled invites trouble for its filler and marketer. It poses the ugly problem of possible law suits should the product be incorrectly stored or used. Aerosols have come of age. There seems to be little excuse for label omissions. Obviously in this day and age, practically everything requires various and sundry label statements. So how responsible manufacturers will market products of any kind without getting the facts in advance is beyond our ken. But they seem to go blythly on their way, designing good looking packages and then ignoring precautionary label requirements. Why? Heaven knows!

* * * * *

CLEANING BOOKLET. . . . A new booklet covering the principles and practices of proper maintenance and cleaning has been issued by the Soap Association under the auspices of its Industrial Division. The booklet, the second put out by the Association recently, is by two well-known authorities in the field of industrial cleaning and sanitation, Lloyd Barron and Albert Burner. Its 64 pages carry illustrations and charts covering practical industrial cleaning operations, products to use, tables of costs and maintenance schedules.

As we see it, this new booklet can help materially in selling top industrial management on the importance of its cleaning and sanitation operations, induce them to spend more money on such operations and indirectly lead to an increased use of industrial detergents, soaps, cleansers and other sanitation products. The work is an excellent



Name a leader and you find a user of Atlantic Petrochemicals



See The Atlantic Refining Company
Philadelphia, Providence, Charlotte, Chicago.

In Canada: Naugatuck Chemicals
Division of Dominion Rubber Company, Ltd.

In Europe: Atlantic Chemicals SAB, Belgium.

In South America: Atlantic Refining Company of Brazil, Rio de Janeiro.

ATLANTIC
PETROLEUM
CHEMICALS

piece of publicity for better cleaning and maintenance methods, a job accruing to the benefit of every marketer of cleaning materials in the U. S.

Copies of the booklet may be purchased from the Soap Association, imprinted with company name on the back if desired, for distribution by soap marketers to their consumer customers. The Association address is 295 Madison Ave., New York, 17. What better way to promote one's own business than to distribute some of these booklets to important customers?

* * * * *

MISLEADING. . . . A warning to the toilet goods industry about misleading advertising has gone out from S. L. Mayham, Executive Vice-President of TGA. He points to the growing concern of the Food & Drug Administration and the Federal Trade Commission and the expanding heat which is being placed on these agencies by members of Congress urging them to do something. Now TGA has made available to the industry at large the services of its Board of Standards which approves or disapproves cosmetic label and advertising copy, a step toward self-policing which can help greatly in warding off almost certain action by the FTC or FDA or both.

On the whole toilet soap advertising has been far less offensive than cosmetic advertising, but some of it skates pretty close to the edge. The implication that any soap can make homely women beautiful still brings quiet amusement. And FTC might decide to pick on this phase of the subject when and if the time comes.

* * * * *

BOMBS. . . . Having lived with aerosols ever since their inception and first manufacture back during the days of World War II, we find our aversion to the term "bomb" as applied to a pressure package rising as the years pass by. The first aerosol insecticide packages looked very much like a hand grenade. We were at war and "bomb" had something of a different connotation. The war-time aerosols were for Army and Navy consumption, for fighting men to use. "Bomb" was not too bad. But for present-day light weight containers designed to be used by Mrs. McGuff in her boudoir or her kitchen, the word "bomb" we feel is awfully outmoded.

The inclination for a manufacturer to use the term "bug bomb" with the implication that it will blast bugs out of existence may be strong. But there are legal aspects to be considered as a couple of people serving the aerosol field well know. "Bomb" implies an explosion. The term, we feel, damns a manufacturer in advance if he has any kind of product trouble. Also the word does not fit in at all with the majority of aerosol products on the market today, hair sprays, shave creams, deodorants, glass cleaners and the like.

We sincerely wish that we could impress those manufacturers still using "bomb" on their aerosol labels that it is very definitely a *dangerous* word, a word which automatically might involve them in legal difficulties. In the interest of self protection, if for no other reason, it should be dropped. "Bombs" went out with the war. They have no place in present day aerosol nomenclature.

* * * * *

DIVERSIFICATION. . . . Don't have all your eggs in one basket or you may end up holding an empty basket. That seems to be the over-riding philosophy in business today. Diversify for safety. If you're in the pickle business, branch out and use your spare funds or issue new stock or something to get hold of a leather factory or a well-known brand of peanut butter, or maybe go into paint. If pickles go out of style, you're still in business with paint or peanut butter. If in this ever changing world of ours, people quit buying your original product, you always have the others to fall back on. Sort of like towing an extra rowboat along in case your first boat springs a leak.

We see even the U. S. Steel going more heavily into chemicals as time goes on. Practically all the oil companies are also now in the chemical business. Recently one of our leading cigarette marketers bought a well-known floor wax company. P & G just acquired Clorox. All in the interest of diversification, an anchor to windward just in case.

If our leading business brains are diversifying, maybe some of the rest of us who operate our peanut stands in some narrow, restricted field ought to sort of look around for a place to jump in case the roof looks like it might fall in some day. If the big shots are diversifying for safety, maybe we little squirts should think about it too.

To get the best in synthetic musks specify GIVAUDAN



Moskene®
Musk Ambrette 100%
Musk Ketone 100%
Musk Xylol 100%
Musk Tibetene®
Ambrettolide L.G.
Thibetolide
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Givaudan offers you the widest possible selection and dependable domestic supply of nitro and macrocyclic musks and other musk-like materials. Givaudan pioneered in the commercial production of synthetic musks and today is the largest producer in this country. Its continuing research both here and abroad has set the pace in musk development. The result is a range of musks and special aromatics of a musk-like character which are unsurpassed for quality and variety.

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as the reader sees it . . .

No Carbon Tet.

Editor:

We appreciate very much the tear sheet you sent us recently of the page which carries the write-up on "Spray" (aerosol) fire extinguisher from the October issue of *Soap & Chemical Specialties.*

We regret very much to note, however, that an error has been made in this write-up and that you specify "Spray" fire extinguisher contains carbon tetrachloride whereas our product contains absolutely no carbon tetrachloride. This is a big talking point for our product because the public now prefers to buy a fire extinguisher that does not contain carbon tetrachloride.

You will note by referring to the press release we sent you that we stated our product contains no carbon tetrachloride . . .

May we ask please that you kindly run another write-up on "Spray" fire extinguisher in your next issue and specify that the product contains no carbon tetrachloride?

MILES POWELL
Vice-President – Sales
Spray Products Corp.
Camden, N. J.

MEA CULPA is all we can say to Mr. Powell. The error was unintentional and we regret it. In reading copy on the news story the fact that the product contained carbon tetrachloride might have been overlooked on the ground that a number of fire extinguishers are based on carbon tet. and bromochloromethane. However, a household spray of this type probably should not contain carbon tet. because of its toxicity. Ed.

★

Ahles Correction

Editor:

I don't think Harry Ahles ever represented Stillwell & Gladding, Inc., New York consulting firm, as you say in reporting Mr. Ahles' death on page 87 of the November issue of *Soap & Chemical Specialties.* I believe he did represent Arthur Stillwell at one time. His major account in recent years was R. T. French, Rochester mustard and spice house—also, until they dissolved or something—Seydel Chemical Co., Jersey City, on benzoates.

Dr. Alfred Weed
Olin Mathieson
Chemical Corp.
Baltimore, Md.

Doc is right—as usual—and our apologies to Stillwell & Gladding. Ed.

★

ISM Merger . . .

Editor:

In your account of the recent Sanitation Maintenance Show and Conference in the November issue of *Soap & Chemical Specialties,* you mention the three organizations which are combining to form the new Institute of Sanitation Management. Actually, the story should have read "The new organization is formed by the consolidation of the Industrial Sanitation Management Association and the Association of Food Industry Sanitarians." The National Association of Bakery Sanitarians is conducting a referendum among its members to determine if NABS should also merge with the other two groups.

The 1958 show will be held at the Municipal Auditorium, Nov. 3-6, and the conference sessions will take place at the Auditorium and the Philadelphia Sheraton Hotel.

John Powell, publisher
Modern Sanitation Magazine
New York

We are grateful to Mr. Powell for untangling a rather complicated "merger." Mr. Powell, who is interim secretary of the Institute of Sanitation Management, also furnished us with the dates for next year's show and conference. Ed.

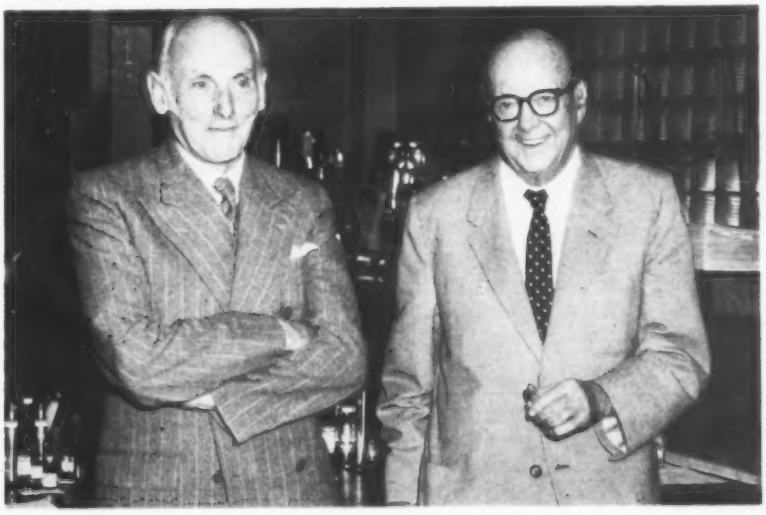
★

Babbitt Sales Increase

Sales of B. T. Babbitt, Inc., New York, in the first nine months of 1957 rose to $16,209,222 from $13,597,594, in the similar period of last year. A net loss of $547,265 was reported for the nine months ended Sept. 30. This compared with a net income of $189,820, equal to share earnings of 18 cents, in the previous year.

In the third quarter of 1957, Babbitt reported sales totaling $5,357,147, as against $4,797,926, in the corresponding period of last year. Net income amounted to $60,785, equal to share earnings of six cents. Last year the company reported a net loss of $28,827.

Alex Fenton, left, and James Varley inspect St. Louis laboratories of James Varley & Sons, Inc. Board chairman of Mirvale Chemical Co., Ltd., Cleckheaton, Yorkshire, England, manufacturing chemists, Mr. Fenton stopped over in St. Louis for a week on his North American business trip to renew an old acquaintanceship with Mr. Varley. The Mirvale concern, founded in 1893, manufactures a complete line of insecticides, disinfectants and deodorants. Mr. Varley is a native of Cleckheaton.





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"Duponol" XL is an all-new product especially developed for clear, liquid shampoos. It is *chemically different* than any other shampoo detergent. With it, you'll not only produce a shampoo with all the qualities most sought after by consumers; you will simplify your formulation as well.

We call "Duponol" XL a pseudo-amphoteric because it contains two hydrophilic sites—one, an amphoteric structure, the other an anionic sulfate. Combined, they offer features unmatched in other shampoo detergents. "Duponol" XL, for example, provides the greatest foaming power of any known detergent, and *without* additives. It will eliminate the need for drying and degreasing controls in your formulation. It is *substantive*—gives a pleasant, soft "feel" to hair and skin, yet can be modified or plasticized as you wish.

"Duponol" XL gives shampoos true cosmetic elegance . . . a pale golden amber color that will not fade or discolor on display. And formulation involves only simple dilution plus thickening to desired viscosity.

We've made some unusual claims for "Duponol" XL. They weren't made lightly. We think the proof is simple: Write to us for a sample, then *wash your hands with it.* "Duponol" XL itself will do the convincing. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyes and Chemicals Division, Wilmington 98, Delaware.

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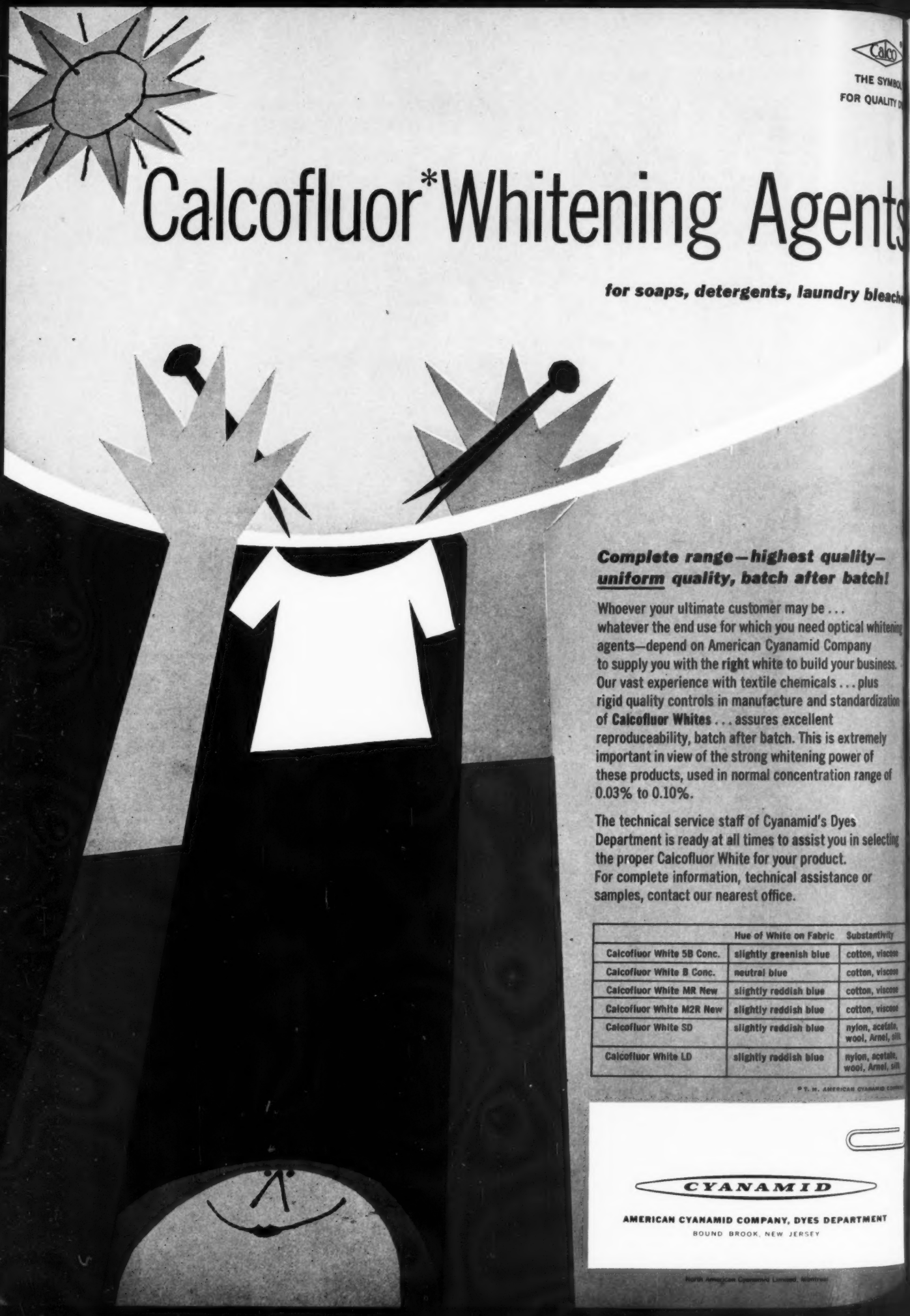
Detergents . . . Cleansers . . . Soaps . . .

Crew scrubbing a floor in one of the properties managed by the Port of New York Authority. Cleaners used for this and other industrial and institutional sanitation maintenance jobs are discussed on page 55.

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Medicinal soaps
Textile detergents
Toiletries
Toilet soaps and other detergent and soap products

Port of New York Authority photograph





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The technical service staff of Cyanamid's Dyes Department is ready at all times to assist you in selecting the proper Calcofluor White for your product. For complete information, technical assistance or samples, contact our nearest office.

	Hue of White on Fabric	Substantivity
Calcofluor White 5B Conc.	slightly greenish blue	cotton, viscose
Calcofluor White B Conc.	neutral blue	cotton, viscose
Calcofluor White MR New	slightly reddish blue	cotton, viscose
Calcofluor White M2R New	slightly reddish blue	cotton, viscose
Calcofluor White SD	slightly reddish blue	nylon, acetate, wool, Arnel, silk
Calcofluor White LD	slightly reddish blue	nylon, acetate, wool, Arnel, silk

*T. M. AMERICAN CYANAMID CO.

CYANAMID

AMERICAN CYANAMID COMPANY, DYES DEPARTMENT

BOUND BROOK, NEW JERSEY

North American Cyanamid Limited, Montreal



Colgate's "Vel" Beauty Bar, described on the wrapper as a "neutral sulfated detergent, now comes in a four ounce size to retail for about 25 cents. New foil wrapper is printed in two shades of blue with gold crown over word "Vel" in white reverse.

Bar Form Synthetic Detergents

By J. K. Weil, A. J. Stirton, E. W. Maurer and W. E. Palm*

Eastern Regional Research Laboratory[2]
Philadelphia 18, Pa.

THE soap bar has a long history of acceptability and is especially suited for toilet use in soft or moderately hard water. Low efficiency in very hard water and inconvenience caused by formation of insoluble calcium and magnesium soaps is, of course, the principal reason for the present and future existence of synthetic detergent bars.

The search for synthetic detergent or soap-synthetic detergent compositions which can be made into a bar, cake or tablet form and be useful in very hard water or even in sea water has been particularly active in the past few years. The many problems encountered have been discussed in several publications (6, 8, 9, 10, 11). In short, most synthetic detergent bars may have disadvantages because they are unlike soap. For example, apart from possible economic disadvantages, synthetic detergent bars may not be easily processed in soap bar forming equipment or unlike soap they may leave the hands dry and uncomfortable, or they may be too readily soluble, wasting away rapidly in use and losing form and rigidity in the soap dish. Notwithstand-

Satisfactory synthetic detergent bars were made based on selected salts of α-sulfonated saturated tallow acids

*Presented at the meeting of the American Oil Chemists' Society, Cincinnati, Sept. 30-Oct. 2, 1957. No. XI in a series "Synthetic Detergents from Animal Fats". For No. X see reference (5).

[2]One of the Laboratories of the Eastern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture.

ing the difficulties a notable degree of success has been achieved as is evident from the fact that four different synthetic detergent bars are now manufactured in this country.

Tallow derivatives are especially suitable materials for synthetic detergent bars because they more nearly resemble soap in chemical and physical properties. The present report concerns experimental synthetic detergent bars which are 100 per cent active, based entirely on selected salts of *a*-sulfonated tallow acids.

The *a*-sulfonated saturated acids of tallow (*a*-sulfopalmitic acid and *a*-sulfostearic acid, RCH (SO_3H) CO_2H) are inherently inexpensive and versatile chemical intermediates. Acid, neutral, and mixed salts can be made by selective neutralization of the strongly acid sulfonic or the weakly acid carboxyl group. Sodium and other metal salts and ammonium and substituted-ammonium salts were found to differ considerably in solubility and surface active properties (15). This suggests their use in synthetic detergent bars where controlled solubility is required.

Satisfactory synthetic detergent bars could not be made from either the sodium or potasium salts, alone, because of their limited solubility and decidedly crystalline character. Acid ammonium salts (RCH (SO_3NH_4) CO_2H) gave hard brittle bars with poor solubility and lather, and bars from acid triethanolammonium salts were too soft and too readily soluble. However, detergent bars useful in hard or sea water, with generally attractive cleaning and lathering properties were made from salt combinations of the following types: (A) a major amount of the disodium salt, RCH (SO_3Na) CO_2Na, with a lesser amount of an acid triethanolammonium salt, RCH [$SO_3NH(C_2H_4OH)_3$] CO_2H; (B) a major amount of the monosodium or monoammonium salt (RCH (SO_3Na) CO_2H or RCH (SO_3NH_4) CO_2H) with a lesser amount of an acid substituted-ammonium salt (e.g. RCH[$SO_3NH(C_2H_4OH)_3$]CO_2H); (C) a major amount of the monosodium or monoammonium salt with the carboxyl group partially neutralized by the addition of lesser amounts of ammonia or amines, or the addition of ammonia and amines. In this type mixed salt formation is presumed, in the bar formation process, by reactions such as RCH (SO_3Na) $CO_2H + HN_3 \longrightarrow$ RCH (SO_3Na) CO_2NH_4, or RCH (SO_3NH_4) $CO_2H + N(C_2H_4OH)_3 \longrightarrow$ RCH (SO_3NH_4) $CO_2NH(C_2H_4OH)_3$.

The preparation of the salts, formation into bars, and properties of the detergent bars are now described.



"Zest," P&G's green synthetic bar is now in production at Port Ivory, Staten Island P&G plant, a step which is believed preliminary to product's introduction shortly in the metropolitan New York market. "Zest" is not yet nationally distributed.

Preparation of Salts

a-Sulfonation. The reaction of liquid sulfur trioxide with purified stearic acid (m.p. 69.1 – 69.4°, N.E. 284.0) or with distilled hydrogenated tallow acids[4] (I.V. 0.7, N.E. 273.5), with carbon tetrachloride as the solvent, was carried out as described in previous publications (14). In some experiments commercial *a*-sulfopalmitic and *a*-sulfostearic acids[5], were mixed in a ratio corresponding to hydrogenated tallow acids.

Sodium Salts. A concentrated aqueous sodium chloride solution was added in slight excess to a hot 10 per cent aqueous solution of the *a*-sulfonated acid. The precipitated crystalline monosodium salt was filtered at room temperature and washed until the filtrate was colorless. The dry monosodium salt was extracted with warm acetone to remove unsulfonated fatty acid normally present to the extent of 0.2-1.0 per cent. Crystallization from very hot water (95-100°) in a ratio of 30 ml./g. gave an 85-90 per cent yield of the purified monosodium salt.

Disodium salts were prepared by neutralization of the monosodium salt prior to the final crystallization.

Ammonium Salts. Monoammonium salts could be prepared from aqueous solution in the same manner as the monosodium salts but filtration and washing of the somewhat gelatinous precipitate was tedious and time consuming. A more convenient laboratory method was to add a slight excess of concentrated aqueous ammonia to a solu-

[4]Supplied through courtesy of Wilson-Martin Division, Wilson & Co., Philadelphia, Pa.

[5]Supplied through courtesy of Armour Chemical Division, Armour & Co. (2).

Table I. Properties of Acid Ammonium, Acid Alkylammonium, and Sodium Ammonium Salts

Salt	Melting Point °C.	Solubility, 30°. g./100 ml.	Krafft point.[d] 1% solution °C.	pH, 30°, 0.1% solution	Immediate foam height 0.25% solution, 60°. (12) mm.
Ammonium *a*-sulfopalmitic acid	125-70[b]	0.2	42	4.0	220[e]
Triethanolammonium *a*-sulfopalmitic acid	204	>20.	<0	4.0	190
Ammonium *a*-sulfostearic acid	140-75[b]	0.05	59	4.4	210[e]
Ethylammonium *a*-sulfostearic acid	90-120[b]	3.	29	4.4	200
Ethanolammonium *a*-sulfostearic acid	96-120[b]	5.	28	4.5	195
Triethanolammonium *a*-sulfostearic acid	156	>20.	<0	4.4	190
Sodium ammonium *a*-sulfostearate[a]	[c]	0.1	60	7.0	210[e]

[a] $C_{16}H_{33}CH(SO_3Na)CO_2NH_4$.
[b] Range from initial softening to complete melting.
[c] Decomposition above 200°C.
[d] Temperature at which a 1% turbid dispersion became a clear solution on gradual heating.
[e] Stable foam; same foam height at 5 minutes.

tion of the *a*-sulfonated acid in warm 95 per cent ethanol. After precipitation, digestion, cooling, and filtration, the monoammonium salt was decolorized and recrystallized from 80 per cent ethanol.

Substituted Ammonium Salts. Acid triethanolammonium salts were prepared by adding a slight excess of triethanolamine to an alcoholic solution of the *a*-sulfonated acid, and purified by recrystallization from alcohol and chloroform (15). Ethylammonium *a*-sulfostearic acid and ethanolammonium *a*-sulfostearic acid, prepared in the same way, had the following analyses[6], respectively: calculated for $C_{20}H_{43}NO_5S$, 3.42 per cent N, 7.83 per cent S (found 3.35); calculated for $C_{20}H_{43}NO_6S$, 3.29 per cent N, 7.53 per cent S (found 3.26, 7.23).

[6] Microanalyses for N and S performed by Miss Lavernie Scroggins.

Mixed Salts. Sodium ammonium *a*-sulfostearate was prepared by adding a slight excess of aqueous ammonia to a hot aqueous solution of the monosodium salt. The recrystallized precipitate had the following analysis[6]: calculated for $C_{16}H_{33}CH(SO_3Na)CO_2NH_4$, 3.47 per cent N, 5.7 per cent Na, 7.95 per cent S (found 3.42, 5.76, 8.32, respectively).

Some properties of ammonium and related salts are shown in Table I. The acid ammonium salts and the sodium ammonium salt are the least soluble but have the highest and most stable foam: the acid ethylammonium and ethinolammonium salts have intermediate solubility; and the acid triethanolammonium salts have sharp melting points and are exceedingly soluble.

Novel shape is a feature of "Dove," Lever's entry in the synthetic detergent bar sales derby. Product is claimed to contain no soap. It, too, comes with a foil wrapper.



The Krafft point is significant with respect to synthetic detergents, as well as soap, as the temperature, somewhat independent of concentration, at which there is a marked increase in solubility with concomitant changes in the nature of the solution. The Krafft points of Table I were determined by the procedure recommended for soaps (7), forming a hot clear one per cent solution, cooling to turbidity, and gradually reheating the homogeneous dispersion until clarification occurred.

The data of Table I is indicative of the variation in physical properties possible by selective neutralization of the sulfonic or carboxylic acid group of an *a*-sulfonated tallow acid.

Detergent Bar Formation

DETERGENT bars were generally made on a laboratory scale by means of a two-roll mill and a hydraulic press, but use of a small scale plodder and stamping machine showed it was also possible in conventional soap bar forming equipment.

Mill and Press Experiments. A total of 60 grams of the detergent salt composition of Type A or B and seven grams of water were stirred together manually and allowed to stand overnight. The procedure was the same for Type C detergents, with a total of 60 grams of the monosodium or monoammonium salt plus a less than equivalent amount of ammonia, amine or ammonia and amine. Salts such as $RCH(SO_3Na)CO_2NH_4$ are prob-

Table II. Properties of Detergent Bars

Type	Composition[a], mole % anhydrous basis	Water % by Weight	Appearance of detergent bar	Hardness[b] immediate	Hardness[b] 15 secs.	Milling and molding properties	Comparative[c] solubility and foam production 110°F., 80 p.p.m. Wt. Loss g.	Comparative[c] solubility and foam production 110°F., 80 p.p.m. Number of strokes to produce foam	Lather in hand washing test	Comparative dish life, appearance of wetted surface (10 min., 300 p.p.m.)
A	80-RCH(SO_3Na)CO_2Na 20-RCH[$SO_3NH(C_2H_4OH)_3$]CO_2H	1.7	firm and smooth	50	23	good[e]	4.7	4	"flash" lather	chalky layer
B	80-RCH(SO_3NH_4)CO_2H 20-RCH[$SO_3NH(C_2H_4OH)_3$]CO_2H	1.6	firm and smooth	65	46	good	5.9	1	somewhat thin "flash" lather	chalky layer
C-1	60-RCH(SO_3Na)CO_2H 40-RCH(SO_3Na)CO_2NH_4	1.6	hard and shiny	100	100	poor[f]	0.07	no foam in test	slow forming thick lather	no change in appearance
C-2	70-RCH(SO_3Na)CO_2H 30-RCH(SO_3Na)$CO_2NH_3C_2H_4OH$	0.5	firm and smooth	98	97	good	1.1	5	"flash" lather	no change in appearance
C-3	80-RCH(SO_3Na)CO_2H 20-RCH(SO_3Na)$CO_2NH(C_2H_4OH)_3$	3.5	firm and smooth	59	34	good[e]	3.6	2	"flash" lather	thin chalky layer
C-4	72-RCH(SO_3Na)CO_2H 8-RCH(SO_3Na)$CO_2NH(C_2H_4OH)_3$ 20-RCH(SO_3Na)CO_2NH_4	4.8	firm and smooth	70	45	good	1.0	2	thick copious l...	very thin chalky layer
C-5	85-RCH(SO_3NH_4)CO_2H 15-RCH(SO_3NH_4)$CO_2NH_3C_2H_4OH$	3.2	firm and smooth	72	43	good	3.8	1	thick copious la...	slight gelatinous layer

[a] Composition as mixtures of salts of *a*-sulfonated hydrogenated tallow acids, RCH(SO_3H)CO_2H.
[b] Measured with the Shore Durometer[R](1).
[c] Solubility measured with the Deter-Meter[R] (16) as the loss in weight of the 20 g. detergent bar plunged repeatedly into 3500 ml. of water (80 p.p.m., 110°F.).
Conditions: minimum screen setting, 2-inch stroke, 100 strokes at 60 cycles/min. Foam production was recorded as the number of strokes needed to create foam covering the aqueous surface within the cage.
[d] Detergent bar supported in hard water (300 p.p.m.) with undersurface in contact, for 10 minutes.
[e] Some tendency to stick to the mold.
[f] Heat required in molding.

ably formed in the mixing and milling process since heat is evolved on the addition of ammonia.

The following day the moist composition was mixed on a two-roll rubber compounding mill, consisting of two rolls, four inches in diameter and eight inches long, running at different speeds. The rolls were closed during milling to simulate the action of a multiroll mill conventionally used to process soap. At the end of this operation a homogeneous plastic sheet was cut from the rolls.

The milled material was placed in a three piece sandwiched mold, with a center piece ¼ inch thick having a rectangular hole 1½ by 2½ inches, with rounded corners. Ten tons of pressure were applied for one minute by means of a hydraulic press. The experimental detergent bar thus had dimensions 2½ x 1½ x ¼ inches, a mass of 18-20 grams, a volume of 1.70-18.5 ml., and a density of 1.00-1.15.

Plodder and Stamping Machine. Through the kindness of Leopold Safrin[7], three pounds of the detergent composition A of Table II were mixed in a small scale plodder and the extruded strands were stamped into bars in a hand stamping machine. The composition, a mixture of the disodium salt and the acid triethanolammonium salt, was found to behave a great deal like soap in the plodder, but had a slight tendency to stick to the mold in the stamping machine.

Because this detergent bar was found to be somewhat too readily soluble later work emphasized other formulas, particularly Type C compositions. However, the experiment demonstrated correlation between milling and pressing, and plodding and stamping, processes, and showed that synthetic detergent compositions based on salts of *a*-sulfonated tallow acids were adaptable to operations in conventional soap bar forming equipment.

[7]Formerly of J. Eavenson and Sons, Camden; present address: Lightfoot Co., Hoboken, N. J.

Table III. Effects of Water Content on the Properties of a Detergent Bar[a]

Water, % by Weight	Solubility,[b] by Weight Loss, g.	Hardness,[b] immediate	Hardness,[b] 15 secs.
4.9	5.34	60	34
3.5	3.60	59	34
2.2	1.33	66	40
1.2	0.25	85	63

[a] Composition C-3, 80 mole % RCH(SO_3Na)CO_2H + 20 mole % RCH(SO_3Na)$CO_2NH(C_2H_4OH)_3$.
[b] Methods of Table II.

Properties of Bars

THE properties which make a detergent bar acceptable to the user are difficult to measure in the laboratory. The properties of the detergent bar in use, essentially the resemblance to soap or improvement over soap in lather, cleaning action, feel, dish life, and absence of any dryness or discomfort, may be rated differently depending on the user's own habits and preference. Measurements of foam height and emulsification are probably helpful in initial screening but cannot correlate with subjective im-

(*Turn to Page* 143)

The Oldest Soap in History

Oldest literary reference to soap found in clay tablets going back to about 2500 B.C. Romans, Greeks relative newcomers

By Martin Levey*
Temple University
Philadelphia

SOAP is one of the oldest chemical substances known. Its history begins before the earliest written literature. However, the oldest literary reference to soap concerns the washing of wool and may be found in clay tablets going back to approximately 2500 B. C. These interesting tablets were written in Sumerian, a language spoken in the land situated in the lower reaches of the Tigris and Euphrates Rivers in what is now southern Iraq. The patriarch Abraham is believed to have come from this region.

The delta of the two rivers was rich in clay. With a wedge shaped stylus, the scribe scratched out the soap recipes on a wet clay tablet about the size of a large picture post card. It was then allowed to dry in the hot sun to give an enduring record, much more so than the Egyptian papyrus, parchment, leather, or our present day paper. Many thousands of these clay documents have been discovered in archeological remains, some in royal chambers, others in what had been homes of these ancient people.

One tablet, uncovered at Tello, a small town of ancient Mesopotamia, and now conserved in the Museum of Constantinople, confirms the use of potash in ancient Sumer. The text, of the third millenium B. C., gives an economic account of cloth manufacture, its fulling and washing. The soap is described as made up of one *qa* (roughly one liter) of oil and 5½

The oldest medical writing in history. Contains recipes for medicated soaps. Courtesy University Museum.



*Professor Levey is one of the very few scholars who can read Sumerian and has studied their early chemistry.

qa of potash. At first glance, it would appear that there is too much potash in the formula according to our modern understanding of the soap making reaction. However, it is apparent that the Sumerian potash was not pure but was merely the ash of a plant rich in potassium carbonate. Thus, a great deal more of the raw material had to be used to have the necessary amount of pure carbonate.

In fact, for thousands of years up until the middle of the 19th century, this was a favorite method of procuring potash both in the Near East and in Europe. In ancient Babylonia, which later included Sumer within its domains, many plants were used for their content of alkaline substances. In an Akkadian tablet of the period of Assyria's great king, Assurbanipal, seventh century B. C., the tamarisk, date palm, pine cone, and *mastakal* plant were utilized as detergent sources. We read:

"May the tamarisk, whereof the tops grow high, cleanse me;
May the date palm, which faces every wind, free me;
May the *mastakal* plant, which fills the earth, clean me;
May the pine cone, which is full of seed corns, free me."

It is of interest that the same Sumerian cuneiform sign was in use for the calamus plant (a soap plant), for potash, and for the idea of washing. Philologically, then, we have a common origin for all three, revealing the oldest source for a washing agent.

A direct reference to the manufacture of soap is to be found in the famous cylinder of Gudea, Sumer's greatest king of the third millenium B. C.:

"So that he makes pure with water, so that he cleanses with potash, . . . he intermixes the pure oil with potash."

Already, in the third millenium B. C. medicated soap was of primary importance in medical therapy. Sulfur soaps held an important position in medicine. In the oldest piece of medical literature known, a Sumerian pharmacological tablet of about 2200 B. C., recently translated by the author and Dr. Kramer of the University Museum, a soap prescription was found in which salt, cassia oil, powdered asafoetida together with other substances were kneaded together. Fine beer and boiling water were then added and the solution then sprinkled upon the patient followed by a rubbing with tree oil.

Another recipe for a medicated soap, in the same medical tablet, involved the use of pulverized fir, skin of a water snake, myrtle root, alkali ash, barley, powdered fir-resin, *kusibu*-plant (unknown) and water. This mixture was boiled, filtered and the filtrate then sprinkled upon the patient. Thus, we have in this prescription, not only the earliest known medicated soap but also the first perfumed one.

Caustic alkali to yield a true soap was not known in antiquity. Some evidence exists, as shown in one of the prescriptions above, that by the use of sodium chloride, soap was "salted out" and so separated from the glycerin. That soap is now known to be one of our oldest chemicals, over 5000 years old, is now without doubt. The Greeks and Romans were thus relatively newcomers in the preparation of soap and its allied products.

Toilet Soap Perfuming—Indian Style

A PERFUME is a harmonious composition of odoriferous principle, modulator, and fixative. The scope of variations is virtually unlimited. However, fragrance applied to an article of commerce such as toilet soap, must comply with the public's tastes, preferences, whims and trends. Consumer preferences, in turn, are governed by climate, environment, tradition, educational, social and economic level in addition to intangible personality traits. The average Indian consumer demands a low price toilet soap with a strong and heavy perfume which persists after use. Actually Indian toilet soaps are among the cheapest on the market anywhere in the world today.

Modern toilet soap is composed of four major constituents: water (three to 12 per cent); alkali salts of fatty acids (70 to 83 per cent); perfume (0.5 to three per cent) and coloring matter (0.5 to two per cent). But in addition to these, soap contains a multitude of organic and inorganic trace components that threaten the stability of the finished soap and of the perfume by oxidation, reduction, hydrolysis, hydration, condensation, polymerization, and other catalytic action. Since soap is such an excellent dispersing medium, such minor ingredients are practically impossible to remove. There has never been a complete analysis of modern toilet soap, and there probably never will be.

Obviously an enormous expenditure of trial and error must go into the development of a soap perfume which is stable, acceptable, and has mass appeal. Spicy perfumes are used for cheap toilet soaps and some of the better laundry and household soaps. The Indian public's overwhelming preference is for the balsamic odors in the following order: sandle wood, khus, agaru, musk, loban, cedar wood, wild ginger, and citronella.

In order to save some of the time and money spent on soap perfume selection, the author divides the most commonly used synthetic perfume constituents into two groups, one stable and one unstable in soap medium. Within each group they are subdivided by their chemical nature, and for each compound an approximate odor rate is listed. An extensive tabulation of natural essential oils indicates for each oil a main odoriferous principle, a chief modulator, and a stability rating for soap.

A superior lavender perfume for European type toilet soap contains:

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Cleaners for Building Maintenance

By J. Lloyd Barron and Albert J. Burner*†

PROGRESS in the cleaning field is possibly best expressed in the development of formulating knowledge which has led to the marketing and general availability of balanced cleaners and specialized detergents.

The janitor of yesterday, supplied with jelly soap, powdered trisodium phosphate, and the inevitable bottle of ammonia, would be ill equipped to clean the many new and varied surfaces that have gained wide acceptance in recent years. Today he has available a great variety of "balanced" cleaners which are classified rather loosely as soaps, synthetic detergents, alkaline cleaners, abrasives, solvents, and acid cleaners. In addition, he has at his disposal many specialized detergents including among others, wax strippers, metal soap removers, rug shampoos, germicidal detergents, and even antistatic cleaners for use on plastic surfaces.

The cleaner of today is not generally composed of 100% soap, synthetic, alkaline, abrasive, solvent or acid material. It is, rather, a combination of two, or more, of the above materials, compounded to include the wetting, penetrating, suspending, water conditioning, and rinsing abilities of each. For instance, the "scrub soap" of yesterday has become the "liquid utility cleaner" or "floor cleaner" of today. It contains, besides soap, small percentages of carefully added alkaline materials to impart special detergency or water conditioning properties, and, in most instances, small percentages of synthetics for their wetting abilities. Thus, when we speak of most proprietary cleaning agents as a soap, synthetic, alkaline cleaner, etc., we are, in truth, referring to a "balanced" cleaner, which is *primarily* composed of one or another of these basic types of detergents.

With this qualifying statement in mind, let us list the various types of cleaning materials and examine the general derivation, types, properties and uses of each.

Soaps

FATS and oils, either animal or vegetable in origin, when treated under controlled conditions with alkali, give an end product, slightly alkaline in pH, which has pronounced oil enveloping and removing properties. The end product of this process, called saponification, is soap. Soap is the oldest of the developed detergents and, for many purposes, is still the most effective cleaning agent. It is available in either solid, jelly, or liquid form.

Solid soap is marketed in bar, flake and powdered form. Bar and flake soaps, formerly used widely in household cleaning, have very little application in building or equipment maintenance.

Powdered soap, of course, is still used extensively in building maintenance, either alone or as an ingredient in proprietary paste and powdered cleaners and scouring compounds. Its use in the pure form as a general utility cleaner, however, has been replaced to a great degree by liquid soap.

Soap, in a jelly form, was for years quite popular in the building maintenance field and is

Abrasive cleaners should be used only periodically for the removal of stubborn accumulations of soil in a wash basin, say the authors.

Port of New York Authority photograph



*Reprinted from Chapter 3 ("Types of Cleaning Materials") of the recently issued booklet, "Building and Equipment Sanitation Maintenance—Principles and Practices." The booklet was published in October by the Association of American Soap & Glycerine Producers, Inc., 295 Madison Ave., New York 17, N. Y.

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still used to a limited extent. Price considerations may have favored its purchase but experience has shown that there was considerable difficulty and waste in its handling and measurement. As a result, it is only on rare occasions that one encounters the use of jelly soap in today's building cleaning operations.

It is in the liquid form that soaps have their greatest application in the building maintenance field. Liquid cleaners based primarily on soap are used widely in floor maintenance and for general utility purposes in industrial housekeeping. For some purposes these cleaners are unexcelled in their performance and have no substitutes in the detergent field. In other instances of floor and building maintenance, sanitation technicians have replaced soaps with the newer synthetics.

Synthetic Detergents

SYNTHETIC detergents are derived from a number of basic materials, including hydrocarbons, and as a group almost defy definition. Quoting from "Standard Definition of Terms Relating to Soaps and Other Detergents" published by The American Society for Testing Materials they are—"detergents produced by chemical synthesis and comprising an organic composition other than soap."

The synthetic detergents used in building maintenance are compounded from members of a large group of surface active agents which in technical nomenclature are classified into three sub-groups: *anionic, nonionic,* and *cationic.* Important industrial maintenance detergents are to be found in each sub-group. The *anionics* include: the alkylaryl sulfonates, the alkyl sulfates, the sulfated and sulfonated amides and amines, the sulfated and sulfonated esters and ethers, the alkyl sulfonates, and some miscellaneous types.

Recently the use of nonionics has gained considerable favor in the compounding of industrial cleaners. This sub-group contains many emulsifiers and detergents. They are generally esters, or ethers, derived from poly alcohols or ethylene oxide, combined with acids, alcohols, phenols, amides, or amines. Cold water solubility and their emulsifying properties make them particularly adaptable in the formulating of certain specialized industrial cleaners.

Cationics include neutralized tertiary amine salts, having dispersive, emulsifying, and detergent properties, and the important quaternary ammonium compounds which have wide application in the industrial field as germicides with incidental deodorizing characteristics.

As indicated above, the chemistry of synthetic detergents is very complex and its mastery is not presumed to be within the scope of this booklet. Suffice it to say that the synthetic detergents have many of the properties of soap, and in addition have two principal advantageous differences; their lime and magnesium salts are water soluble and do not precipitate in hard water, and many can be used in an acid medium and still retain their detergent properties. The first of these properties gives them an adaptability in hard water areas, the second an important degreasing ability.

Synthetic detergents have other advantages which qualify them for use in building and equipment cleaning. As purchased in the form of proprietary cleaners they are generally in a very neutral pH range, around 8.0, and safe to use on most surfaces. In addition they do not leave a film after using.

As desirable as it might be, the perfect all purpose cleaner is still far from achievement. The greatest progress in this direction has resulted from the availability of a wide variety of surfactants and the advancing technology in formulation.

Alkaline salts such as trisodium phosphate, sodium carbonate, modified soda, sodium metasilicate, tetrasodium pyrophosphate, etc., have well established detergency



Degreasing bus runway at Port of New York Authority bus terminal on Eighth Ave.

properties and for years have been used, either alone, or in compounded balanced cleaners, in the building and equipment maintenance field.

Although trisodium phosphate, in its commercial form, is still used to some extent as a powdered utility cleaner, preference in recent years is in favor of milder, balanced powdered cleaners. The danger of over usage in cleaning painted surfaces, scrubbing of most resilient floors, and in mopping and scrubbing terrazzo, has led many to replace alkaline cleaners with powdered synthetics. Price, however, is in favor of alkaline materials and many institutions still use these products in the daily maintenance of lavatory porcelain and hard floors other than marble and terrazzo.

Alkaline degreasers also have wide usage in cleaning driveways, and shop and garage concrete floors. Lower costs have again led many to use these compounds in place of the costlier solvent emulsions.

Alkaline materials are often formulated into special cleaners by consumers who buy the basic materials in bulk. This is particularly true in food and packing industries where these so called "process" cleaners are used for cleaning the inside of processing equipment and piping.

In addition to having detergent properties, certain alkaline

materials, such as various types of phosphates, have water softening characteristics and thus are compounded into many proprietary cleaners for that purpose. Other alkaline cleaning materials have wide usage in industrial maintenance, but the fear of damaging costly surfaces has limited their use in products used for housekeeping work.

Abrasive Cleaners

ABRASIVE materials such as finely ground silica, volcanic ash, powdered feldspar and powdered pumice are seldom, if ever, used alone in building cleaning work. These materials are generally compounded into powdered soaps, powdered synthetic detergents, powdered alkaline cleaners or paste products.

The abrasives have a varied application in removing stubborn soil but their use is seldom recommended for routine maintenance. This is because their continued or careless use can deleteriously affect the finishes on surfaces to which they are applied. They can, however, when compounded as an ingredient in soap or synthetic products, be used in the renovation of badly soiled hard floors. They have value also in removing discolorations and rust stains from lavatory porcelain. Abrasives, having fine particle size, are also used extensively in metal polishes of various kinds.

Although helpful in many unusual and difficult cleaning situations, their use should be rigidly controlled by the sanitation supervisor or administrator. In no instance should they be specified for the routine cleaning of any surface.

Solvent Cleaners

SOLVENT cleaners, or emulsion cleaners, as they are sometimes called, are compounded from hydrocarbons, emulsifiers, and wetting agents. They include, among many other basic chemicals, carbon tetrachloride (decreasingly used because of high relative toxicity), trichloroethane, trichlorethylene, methylene chloride, and kerosene and are marketed under a host of trade names.



Different floor surfaces require different types of cleaners. Here two man crew is machine scrubbing a hard floor surface in a Port of New York Authority building.
Port of New York Authority photograph

They are compounded with relatively safe flash points and specific types are non-injurious to paint, decals, acrylics, aluminum and other metal surfaces. The use of chlorinated hydrocarbons, included in this group, must be closely controlled in their housekeeping applications because of their toxic qualities. They should be made available to the cleaning force only under closely supervised conditions, and *after all ventilation and protective measures have been taken.*

Many of the solvent cleaners are purchasable in a form where they can be used alone, cut with kerosene, No. 2 fuel oil, diesel fuel, or water.

Solvent cleaners are used widely both for general degreasing and a number of specific purposes such as cleaning motors, aircraft tail assemblies and landing gear, Diesel locomotive bodies, cabs, and gear boxes, and under carriages of trucks and heavy construction equipment. They are extremely useful in degreasing concrete driveways around loading platforms, bus berths in passenger loading areas, fire house floors, and machine shop areas where heavy staining is due to leakage of lubricants.

Acid Cleaners

ACID cleaners, though they must be used with extreme caution, do have a place in the building and equipment cleaning field. They belong, perhaps in the category of specialized cleaners as they are invariably formulated to meet a specific problem.

Bowl cleaners, acid in nature, in both the powdered and liquid form, are used widely in removing lime encrustation from commodes and urinals in lavatory maintenance. Weak citric acid solutions have been used for years in damp wiping bronze trim, and of late, have been successfully used as a non-streak wash for stainless steel, particularly in cafeterias. Properly buffered phosphoric acid compounds can be used safely and effectively in cleaning exterior aluminum trim under controlled conditions. Lastly, diluted hydrochloric acid is widely used in removing lime encrustations in the interior cleaning of piping and processing equipment, particularly in hard water areas.

The above is but a brief

listing of uses to which acids are sometimes employed in the cleaning field. Their usage should always be for a specific purpose and dependent upon a close study of the problem involved. Close supervision is always required in their usage and their availability to the maintenance force should be rigidly controlled.

Specialized Cleaners

THERE are a number of proprietary cleaners which are compounded for specific usages in housekeeping work. These include rug shampoos where heavy foaming and a minimum of water is desirable; the sanitizing and germicidal cleaners used in lavoratory maintenance and in areas where antiseptic conditions should prevail; the so-called wax strippers for removing wax accumulations around baseboards; antistatic cleaners designed to clean plastic surfaces and reduce their dust attracting affinities; specially buffered silicated and phosphoric acid washes for aluminum; and lemon oil washes for bronze and stainless steel. In any such list should be included the special compounds, fortified with chelating or sequestering agents, and capable of removing heavy metallic soap deposits from terrazzo baseboards and stair-risers.

Even though in the strict sense they are not cleaners, there is a miscellaneous group of materials which are used to advantage in building maintenance. These include the various types of grease absorbents which are applied to heavy grease or oil spillage for both safety purposes and removal by absorption, after which a more thorough cleaning job can be performed—there are also disinfectants, including the quaternary ammonium compounds, the halogens, and synthetic phenols, fungicides for foot baths in shower stalls, and various types of insecticides and rodenticides. Dust treatment compounds have also been used successfully in impregnating dry mops, dustcloths and sweeping towels. Also important in this general category of specialized sanitation materials should be mentioned the various types of floor finishes: waxes, resins, sealers, etc., and lastly at the foremost reaches of sanitation progress – the odor counteractants.

The above listing mentions but a few of the specialized cleaners and materials that have been developed by manufacturers to meet the unusual or difficult sanitation problem. Many such materials, though not consumed in quantity by the cleaning force, nevertheless are especially useful to housekeeping personnel and their availability in the sanitation stockroom does much to eliminate, or make unnecessary, the unqualified ventures into compounding carried on in some instances by cleaning personnel.

Usage of Materials

MUCH has been written concerning the proper usage of the various basic types of cleaning compounds. Associations of floor

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Chart I. Recommended Usage of Materials—Hard Surfaces

Type of Surface	Soaps	Synthetic Cleaner	Alkaline Cleaner	Abrasive Cleaner	Solvent Emulsion	Acid Cleaner	Comments
							(Numbers do not indicate preference but are for reference only.)
Terrazzo	1	2		3			1. Routine mopping, scrubbing or washing. Good rinse required. 2. Routine mopping, scrubbing or washing. 3. Removal of stubborn oil — periodic use only.
Marble	1	2		3			1. Routine mopping, scrubbing or washing. Good rinse required. 2. Routine mopping, scrubbing or washing. 3. Removal of stubborn soil — periodic use only.
Travertine		1					1. Routine mopping, scrubbing or washing.
Oxychloride	1	2					1. Routine mopping and scrubbing. 2. Routine mopping and scrubbing.
Glazed Tile		1	2				1. Routine wall washing. 2. Routine wall washing.
Ceramic Tile	1	2	3	4		5	1. Routine mopping and scrubbing. 2. Routine mopping and scrubbing. 3. Routine mopping and scrubbing. 4. Removal of stubborn soil — periodic use only. 5. Removal of heavy accumulation — Dilute acid detergents.
Red Quarry Tile	1	2	3	4		5	1. Routine mopping and scrubbing. 2. Routine mopping and scrubbing. 3. Routine mopping and scrubbing. 4. Removal of stubborn soil — periodic use only. 5. Removal of heavy accumulation — Dilute acid detergents.
Concrete	1	2	3	4	5		1. Routine mopping and scrubbing. 2. Routine mopping and scrubbing. 3. Routine mopping and scrubbing. 4. Removal of stubborn soil. 5. Removal of petroleum stains.
Slate	1	2	3	4		5	1. Routine mopping and scrubbing. 2. Routine mopping and scrubbing. 3. Routine mopping and scrubbing. 4. Removal of stubborn soil — periodic use only. 5. Removal of heavy accumulation — Dilute acid solutions.

Surfactants Listed...

Fourth revision of synthetic detergents and emulsifiers shows many new products

By John W. McCutcheon

THE periodic revision of the listing of synthetic detergents and emulsifiers available in the United States is again before us. Although the remarks must of necessity duplicate to some extent those of previous revisions, it is still necessary to outline the basic coverage of this report and to review the changes that have taken place in the industry since the previous publication in 1955.

There is a general misconception on the frequency of publication. Some think it is yearly. This would be highly desirable if it could be done economically. So far the list has been revised and published about every three years, in *Soap & Chemical Specialties* over a number of issues. It is then made available from the author as a consolidated reprint.

Since 1949, when the first listing was published in the August, September and October issues of *Soap*, two other revisions have appeared: In 1952 (Aug., Sept. and Oct.) and 1955, July, Aug., Sept. and Oct.).

The numerous requests received for a revised list, plus the fact that available reprints supply is running low, prompted us to revise the listing slightly ahead of the three year schedule.

Selected Criteria

TYPES of products covered and their classifications remain the same as in previous surveys and represent essentially trade name industrial surfactants produced in the U.S.A. The term "detergent" is used here in its restrictive sense and refers to "synthetic detergent." The listing does not attempt to cover industrial or retail compounded products comprehensively. However, some leeway in this respect is allowed since often it is difficult to establish a line of demarcation between a modified product and a compounded one. Generally, the tendency is to include such items in limited numbers. One or two items made by important industrial compounders are listed with the idea of including the company's name. Many people have found this very helpful, particularly foreign manufacturers who may desire to do business with American firms. Retail products have also been included as usual when they represent nationally advertised brands. However, no attempt has been made to make such listings complete.

A few import firms are included where such firms are known to be actively supplying some segment of the domestic market, but again no attempt has been made to cover all such firms.

Product specifications are generally those of the numerous manufacturers whose cooperation in preparing this list is hereby thankfully acknowledged. However, for the sake of brevity and uniformity it has been necessary frequently to consolidate the information and at times to reedit it in another form. At the request of suppliers, prices have not been included.

A definite trend toward a more precise indication of formula has been noted as these listings multiply. However, the writer has generally restricted the disclosure of formulas to those previously published. Some companies overlook trade name products for which sales are limited to either special customers or are small in volume. This often is embarrassing in compiling a listing since invariably some advertising has been done on such products and they become known. Every precaution is taken to include all such products, but there is no doubt that some oversights occur.

The list of companies has undergone extensive revision, due principally to amalgamations in the last two years. Then, too, there are a few new companies, while some old ones have dropped out. An endeavor has been made in the company list to keep the record of such changes as complete as possible by cross references, footnotes and subsidiary comments.

Detergent Trends

TABLE I, presents comparatively, the data of the 1954, '55 and '56 Tariff Commission Reports. The 1956 figures are based on the preliminary report.

Overall, the 1955 and 1956 production of surface active agents indicates a steady growth upward in practically all categories. The fantastic gains of a few years ago are out and a general levelling off is noted. Tariff Commission classification here and there appears to lower overall production, but the data presented is on a more realistic

Table I.

Cyclic	Thousands of Pounds 1954	1955	1956
1. Esters and ethers, nonsulfonated	42,089	71,819	79,479
2. Nitrogen containing, nonsulfonated	7,215	10,083	12,562
3. Sulfonated and sulfated total	590,918	681,937	593,193
dodecylbenzene type	386,243	446,172	455,444
all others	2,716	3,091	4,784
Lignin derivatives	39,352	79,596	91,305
Naphthalene derivatives	7,332	6,493	7,655
Petroleum aromatics	142,782	124,548	.....
Water soluble	.....	.....	5,259
Oil soluble	(84,723)	(82,750)	.....
Toluene sulfonate, sodium salt	.....	.....	7,354
(All others)	12,493	22,037	21,392
Acyclic			
1. Esters and ethers, nonsulfonated	88,478	101,227	114,200
2. Nitrogen-containing, nonsulfonated	56,777	65,353	69,364
3. Phosphorus-containing, nonsulfonated	586	1,852	1,890
4. Salts, nonsulfonated	21,129	23,094	10,322
5. Sulfated and sulfonated	218,644	197,816	191,769
Acids, alcohols and ethers	133,168	140,482	142,164
Nitrogen-containing	8,566	4,161	5,731
Oils, fats and waxes	76,910	53,173	43,874
Total			
Cyclic	640,222	763,839	685,234
Acyclic	385,614	389,342	387,545
Grand Total	1,025,836	1,153,181	1,072,779

basis as will be described below.

The most important growth change in cyclic derivatives is the steady upward trend of nonsulfonated esters and ethers. This class contains the important nonionic products such as the alkylphenoxy polyethoxy ethanol used extensively in liquid detergents. The sulfated derivatives are also finding their way into this field.

A rapid growth of solubilizers and detergent bead conditioners such as xylene sulfonate and toluene sulfonate should be noted. The 1956 report gives a seven million figure for the toluene derivative which accounts for practically the entire growth of this sub group over the 1955 figure. Only a few years ago, one company turned out the entire production. Now, at least half a dozen large companies are in this field.

The growth of sulfonated lignin derivatives should also be noted. They doubled from 1954 to 1955 to reach a respectable 40,000 tons and then added another 6000 tons in 1956. This does not include imports from Canada which are considerable. Sulfonated lignin is a by-product much in the same production category as tall oil. To produce it, one has to be in the pulp and timber business. Only four companies are producing this commodity—three in the U.S.A. and one in Canada.

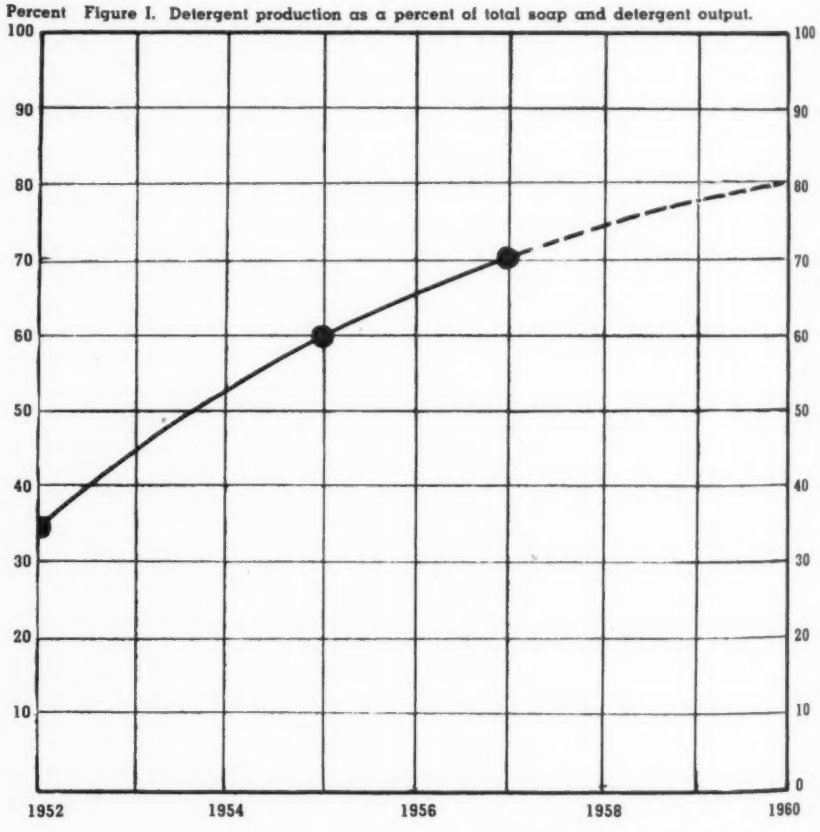
The overall drop in cyclic compounds can be traced almost entirely to the oil soluble sulfonated aromatics. A re-classification in the 1956 preliminary report has been made. Oil soluble type petroleum sulfonates used chiefly as lubricating oil additives have been transferred to miscellaneous cyclic chemicals." This accounts for about 85 million pounds, which if added to the 1956 total, would bring that year's total to approximately the same figure as for 1955.

In the acyclic group, most items show a steady nominal increase from year to year.

The drop in salts is due to the reduction of the "all other" classification from 1955's 16,691 to 6,811 in '56. This class includes such items as potassium resinate, potassium stearate, potassium salt of corn oil, sodium tallate, etc. No explanation for this change is made in the tables but very possibly some items formerly classed here, may now be reclassified to other uses such as plasticizers.

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Figure I. Detergent production as a percent of total soap and detergent output.

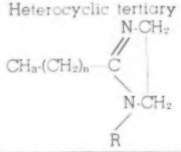


Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
ABS-99	Pilot California Co.	Dodecylbenzene sulfonic acid	Detergent base	Liquid	98 %	Anionic	Manufactured from tetrapropyl benzene by low temperature reaction with SO_3. (Viscosity approximately 700 centipoises increasing above 125°F.) Useful for compounders making metal cleaners, steam cleaners, etc.
Acidol 25 A	Onyx Oil & Chemical Co.	Salt of a fatty acid tertiary amine	Wetting	Liquid	25%	Cationic	Textile processing, electroplating
Acidolate	White Laboratories, Inc.	Sulfonated oils, etc.	Detergent	Liquid		Anionic	A non-irritating hypoallergenic skin detergent. Ideal cleanser for fat-soluble and water-soluble soil. Indicated for the removal of grease, ointments, and in dermatitis conditions, e.g., acne vulgaris, ringworm of the scalp, etc.
Acidose	Turco Products, Inc.	Alkyl aryl sulfonate	Detergent Wetting	Powder	15%	Anionic	Car washing and metal pickling solutions
Acto 450 500 600 630 700	Esso Standard Oil Co.	Alkyl aryl sulfonate Mol. Wt. 465-480	Emulsifier	Paste Liquid	70% 45%	Anionic	A sodium sulfonate mineral oil mixture. Percent active is designated by first two numbers. Emulsifying base for rust preventives, cutting oils, fat splitting, emulsion breakers, etc.
Actusol	Du Bois Co.		Emulsifier	Liquid			A water soluble grease emulsifier for the metal industry.
AD (retail)	Colgate-Palmolive Co.		Detergent	Bead		Anionic	A low sudsing all-purpose detergent for household use
Advamix ZL	Advance Solvents & Chem.		Dispersant	Liquid	100%	Anionic	Designed for dispersing paints
Advawet 10	Advance Solvents & Chem.	Alkyl aryl polyether alcohol	Wetting Emulsifier	Liquid	100%	Nonionic	An emulsifier for latex paints, water base inks, glues, galvanizing fluxes, etc.
Advawet 33	Advance Solvents & Chem.	Polyglycol ester	Wetting Emulsifier	Liquid	100%	Nonionic	Developed for emulsion paints
Advawet X-212	Advance Solvents & Chem.		Emulsifier	Liquid			Developed to reduce the viscosity of plastisols thereby reducing the danger of entrapping air.
Aerosol 18	American Cyanamid Co.	Disodium N-octadecylsulfosuccinamate	Emulsifier Dispersant	Paste	35%	Anionic	Notable for its emulsifying, dispersing, foaming power, detergency and solubilizing action on soaps and other surface active agents
Aerosol 22	American Cyanamid Co.	Tetrasodium N-(1, 2-dicarboxyethyl)-N-octadecylsulfosuccinamate	Emulsifier Dispersant	Liquid	35%	Anionic	Has excellent salt tolerance and solubilizing power. Suggested for emulsion polymerization of vinyl and acrylate polymers.
Aerosol AY	American Cyanamid Co.	Diamyl ester of sodium sulfosuccinic acid $C_5H_{11}COOCH_2CHSO_3NaCOOC_5H_{11}$	Wetting Dispersant	Solid	100%	Anionic	Lump form, water soluble; best with electrolytes
Aerosol C-61	American Cyanamid Co.	An ethanolated alkyl guanidine amine complex	Wetting Dispersant	Paste	70%	Cationic	A pigment dispersant and wetting agent in acid solutions for use in textile, paper and adhesive industries
Aerosol MA	American Cyanamid Co.	Dihexyl ester of sodium sulfosuccinic acid	Wetting Dispersant	Liquid	80%	Anionic	Used chiefly in emulsion polymerization and as a wetting agent in dilute salt solutions
Aerosol OS	American Cyanamid Co.	Isopropyl naphthalene sodium sulfonate	Wetting Dispersant	Powder	75%	Anionic	Stable and effective wetting and dispersing agent in relatively high concentrations of acids and alkalies
Aerosol OT	American Cyanamid Co.	Dioctyl ester of sodium sulfosuccinic acid	Wetting Dispersant	Solid	100%	Anionic	Wax-like, hygroscopic solid, water soluble to form gel, at 50%; Best wetting agent of series but least stable; Also available as a 75% water-solvent solution
Aerosol OT-B	American Cyanamid Co.	Dioctyl ester of sodium sulfosuccinic acid	Wetting Dispersant	Powder	85%	Anionic	A free-flowing white powder instantaneously soluble in water up to its solubility limit (0.6% @ 30°C.); At higher concentrations, forms uniform suspensions; Generally insoluble in organic solvents; used to make "wettable dusts"

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Agrimul 70-A	Nopco Chemical Co.	Alkyl aryl polyether alcohols	Emulsifier	Liquid	100%	Nonionic	Agricultural emulsifier for chlorinated hydrocarbons
Agrimul 70-B	Nopco Chemical Co.	Blend of polyether alcohols	Emulsifier	Liquid	100%	Nonionic	Agricultural emulsifier for aromatic solvents
Agrimul GA	Nopco Chemical Co.	Aromatic sulfonate-oxide condensate blend	Emulsifier	Liquid	100%	Anionic	Agricultural emulsifier for weed killer esters
Agrimul TL	Nopco Chemical Co.	Aromatic sulfonate-oxide	Emulsifier	Liquid	100%	Anionic	Agricultural emulsifier for chlorinated hydrocarbons
Agrimul UL	Nopco Chemical Co.	Aromatic sulfonate-oxide condensate blend	Emulsifier	Liquid	100%	Anionic	Agricultural emulsifier for chlorinated hydrocarbons
Ahcovel E F R A G	Arnold, Hoffman & Co.	Fatty carbamide derivatives	Softener	Paste	50% 30% 32% 35% 50%	Anionic Anionic Anionic Cationic Cationic	"Ahcovel E," "F" and "R" are anionic textile softeners. "Ahcovel A" and "G" are cationic softeners for use where alkaline salts are absent
Ahcovel X57	Arnold, Hoffman & Co.		Softener	Paste		Cationic	A non-chlorine retentive substantive softener for use on all classes of fibers and crease-resist resins
Ahcowet ANS	Arnold, Hoffman & Co.	Alkyl aryl sodium sulfonate	Wetting	Liquid	55%	Anionic	Textile, leather, etc.
Ahcowet N	Arnold, Hoffman & Co.	Ethylene oxide condensate	Wetting	Liquid	25%	Nonionic	Will withstand 2% alkali or acid
Ahcowet RS	Arnold, Hoffman & Co.	Sulfated fatty acid ester	Wetting Dispersant	Liquid	65%	Anionic	Water soluble, soluble in kerosene and chlorinated hydrocarbons, dispersible in benzene. Textiles, dye baths, sanforizing, etc.
Ahcowet VL	Arnold, Hoffman & Co.	Ethylene oxide condensate	Dispersant Retardant	Liquid	20%	Nonionic	Retardant for dyeing pale shades with vat dyes; leveling for vat-dyed goods, dispersant for disperse dyes
Ahcowet 51	Arnold, Hoffman & Co.	Alkyl aryl sulfonate	Detergent Penetrant	Liquid	38%	Anionic	Low cost, general detergent; penetrant for warp sizing; boil-off assistant; leveling agent for dyeing sulphurs and directs
Ahcowet 126	Arnold, Hoffman & Co.	Fatty amide	Wetting Rewetting	Liquid	50%	Cationic	Used mainly in the paper trade in the production of wet-strength papers
Ahcowet 129	Arnold, Hoffman & Co.	Sulfonated fatty acid ester	Wetting Leveling	Liquid	60%	Anionic	Wetting agent for continuous high speed vat dye baths where foaming is a serious problem; dispersant for vat powders
Ajax Paste	Colgate-Palmolive Co.	Alkyl aryl sulfonate plus phosphate builders	Detergent	Paste		Anionic	A synthetic detergent abrasive cleaner for general industrial and institutional cleaning
Alamine 4, 6, 7 21, 26 H26, 33	General Mills, Inc.	N-fatty primary amines	Detergent Intermediate	Liquid and Solid	100%	Cationic	These primary amines contain the following fatty substituants: "Alamine 4"-lauric, 6-palmitic, 7-stearic, 21-coco, 26-tallow, H-26-hydrogenated tallow, 33-cottonseed. Supplied in technical and distilled grades. Certain amines available as acetate salts; Physical form varies with chain length and degree of saturation
Alamine 221, H226	General Mills, Inc.	N-difatty secondary amines	Detergent Intermediate	Solid	100%	Cationic	"Alamines" are intermediates for a wide variety of surfactants such as, wetting agents, textile softeners, germicides
Albasol BF	Nopco Chemical Co.	A potassium soap, solubilized with glycol	Emulsifier	Liquid	91%	Anionic	A perfume solubilizing agent
Albatex POK Paste	Ciba Co.	Benzimidazole compound	Dispersant Emulsifier	Paste	15%	Anionic	Penetrating, leveling and dispersing agent
Alcanox	Standard Scientific Supply Corp.	A compounded alkyl aryl sodium sulfonate	Detergent Wetting	Powder Solid		Anionic	A manual cleaning agent for laboratory and hospital
AlcoJet	Standard Scientific Supply Corp.	A compounded product	Detergent	Powder		Anionic	A low foaming detergent for machine dishwashing
Alcolec	American Lecithin Co.		Emulsifier	Paste		Nonionic	A series of lecithin products such as "Alcolec DS," "HS-2," "HS-3," "MS-10," "MS-12," "4135," "WDR," "HO41ON," "Alcolec" Granules; Use: as emulsifiers in food, cosmetic and pharmaceutical trades

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Alconates	L. Sonneborn Sons, Inc.	Petroleum sulfonate of mol. wt. 415/430	Wetting Emulsifier	Liquid	50% 80%	Anionic	Designed for use as an emulsifier for synthetic rubber and resins and as a fat splitting agent and all such other uses where free oil would produce an undesirable unsaponifiable residue
Aldo 25	Glyco Products Co.	Propylene glycol monostearate	Emulsifier	Solid	100%	Nonionic	An edible type self-emulsifier
33	Glyco Products Co.	Glyceryl monostearate	Emulsifier	Powder	100%	Nonionic	Edible, used in baking, ice cream, cosmetics and industrial processes; "Aldo 28" is a bead form of product made from a different grade of monoglyceride than "Aldo 33." It is self-emulsifying. "Aldo 33" is neutral
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Aldo 40	Glyco Products Co.	Glycerol oleostearate	Emulsifier	Paste	100%	Nonionic	A cosmetic and food emulsifier
Altracal	Altramine Corp.	Alkyl aryl sodium sulfonate	Detergent	Powder	45%	Anionic	A textile detergent and scouring agent
Algepon LN	Arkansas Co.	High molecular weight polyoxyethylene ether alcohol and polyglycol fatty ester	Dispersant	Liquid	50%	Nonionic	Textile dyeing applications
Alipal CO-433	Antara Chemicals, division of General Aniline and Film Corp.	Sodium salt of a sulfate ester of an alkyl phenoxy polyoxyethylene ethanol	Detergent Wetting Dispersant	Liquid	28%	Anionic	Surfactant with high foaming qualities in hard or soft water; lime soap dispersant; stable in hard water, alkaline solutions and mild acid
Alipal CO-436	Antara Chemicals, division of General Aniline and Film Corp.	Ammonium salt of sulfate ester of an alkyl phenoxy polyoxyethylene ethanol	Detergent Wetting Dispersant Emulsifier	Liquid	58%	Anionic	Stable in hard water and mild acid solutions; foamer in hard water. Uses: detergent base in car wash, rug shampoo and high foam liquid dishwashing formulations; surfactant in cosmetic preparations; emulsifier for co-polymerization of vinyls; anti-static for natural and synthetic fibers
Aliphat 4, 4A, 4B, 4C, 4E, 5, 21A, 21B	General Mills, Inc.	Fatty acids	Detergent Intermediate	Solid	100%	Anionic	"Aliphats" listed are coconut fatty acids, or lauric and myristic acids derived therefrom. "Aliphats" from other animal and vegetable oil sources available. Use: intermediates for soaps, detergents, cosmetics
Aliphatic ester sulfate	Onyx Oil & Chemical Co.	As given in name	Wetting Emulsifier	Liquid	55%	Anionic	
Aliquat 4, 6, 21, 26	General Mills, Inc.	N-fatty trimethyl quaternary ammonium chloride	Germicide	Liquid	50%	Cationic	Uses: Sanitizing agents, anti-static agents, textile softeners, corrosion inhibitors
Aliquat 221, H226	General Mills, Inc.	N-difatty dimethyl quaternary ammonium chloride	Softener	Liquid Paste	75%	Cationic	Textile and paper softener, germicide
Alkagel	Amalgamated Chemical Corp.	Sodium methyl oleoyl taurate	Detergent	Viscous Liquid	20-40%	Anionic	Used as scouring, dyeing and soaping-off agent in textile processing
Alkamine C Conc.	Amalgamated Chemical Corp.	Alkanolamine fatty condensate	Scouring Penetrant	Liquid	100%	Nonionic	Textile scouring agent, dispersant having good wetting properties
Alkamine D	Amalgamated Chemical Corp.	Sulfated fatty alcohol	Detergent	Paste	40%		Used as scouring, dyeing and soaping-off agent in textile processing
Alkamine, liquid W-30	Amalgamated Chemical Corp.	Alkanolamine fatty condensate	Detergent	Liquid		Nonionic	Textile scouring agent
Alkamine Powder NCX-2	Amalgamated Chemical Corp.	Blend of alkalies and detergent	Detergent	Powder	100%	Anionic	Used in conjunction with "Evenate OBX" for one bath scouring and dyeing of orlon sweaters, nylon hosiery and piece goods
Alkamine Powder OBX	Amalgamated Chemical Corp.	Blend of alkali, soap, synthetic	Detergent	Powder	100%	Anionic	Used in conjunction with "Evenate OBX" for one bath scouring and dyeing of hosiery and piece goods
Alkamine Powder X70	Amalgamated Chemical Corp.	Blend of alkalies and detergent	Wetting	Powder	100%	Anionic	Scouring nylon hosiery and piece goods. Used in conjunction with "Evensate SX" for two bath scouring and dyeing of nylon hosiery
Alkanol B	E. I. du Pont de Nemours & Co.	Sodium alkyl naphthalene sulfonate	Dispersant Detergent	Powder		Anionic	Textiles, metal cleaning
Alkanol DW	E. I. du Pont de Nemours & Co.	Alkyl aryl sodium sulfonate	Detergent	Liquid		Anionic	A general use detergent; clear yellow solution

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Alkanol HC	E. I. du Pont de Nemours & Co.	Long chain alcohol ethylene oxide condensate	Detergent	Paste		Nonionic	Heavy duty detergent dyeing assistant
Alkanol HCS	E. I. du Pont de Nemours & Co.	Long chain alcohol ethylene oxide condensate	Dispersant	Liquid		Nonionic	Heavy duty detergent
Alkanol S Flakes	E. I. du Pont de Nemours & Co.	Sodium tetrahydronaphthalene sulfonate	Solubilizer	Flake		Anionic	Increases solubility of many synthetic detergents
Alkanol WXN	E. I. du Pont de Nemours & Co.	Sodium alkyl aryl sulfonate	Wetting Rewetting Penetrant	Liquid		Anionic	Most efficient of du Pont wetting agents for textiles
Alkanol 189-S	E. I. du Pont de Nemours & Co.	Long chain hydrocarbon sodium sulfonate	Wetting Emulsifier Detergent	Liquid		Anionic	General use as detergent, wetting, penetrating agent; textiles
Alkaterge A E T	Commercial Solvents Corp.	Substituted oxazolines homologous series to "Alkaterge C"	Wetting Emulsifier	Liquid	100%	Cationic	Molecular weight increases slightly from A to E to T; spreading agent and pigment dispersing
Alkaterge C	Commercial Solvents Corp.	A substituted oxazoline	Dispersant Emulsifier	Liquid	100%	Cationic	One percent in mineral oil lowers interfacial tension against water more than 95%. Dispersing agent for solids in mineral oils
Alkosul 645	Pennsylvania Refining Co.	Sodium sulfonate from synthetic alkylate feedstock (petroleum)	Emulsifier	Liquid		Anionic	A motor oil additive and rust preventive
Alkyl Dimethyl Benzyl Ammonium Chloride	Onyx Oil & Chemical Co.	As in name	Germicide	Solid	100%	Cationic	
"All" (retail)	Leve Brothers Co.		Detergent	Powder		Nonionic	Controlled sudsing, all-purpose detergent
Alox Series	Alox Corp.	Complex esters of high molecular weight acids derived from oxidized petroleum; also the amine salt of long chain acids and complex metallic soaps of mixed oxygenated hydrocarbons	Wetting Emulsifier				Lubricating, and for enhancing wetting properties of oils and displacing water in control of metal corrosion
Alrodyne 315 8020	Geigy Chemical Corp.	Polyethylene glycol fatty esters	Emulsifier	Liquid	100%	Nonionic	A series of emulsifiers for agricultural sprays
Alromine RA	Geigy Chemical Corp.	Fatty alkylolamine condensate	Emulsifier	Paste	25%	Anionic	Cosmetics, as hair conditioner, shampoos, softening agent
Alromine RU-100	Geigy Chemical Corp.	Fatty condensate	Lubricant	Solid	100%	Nonionic	A substantive softening agent for protein, cellulose and synthetic fibers
Alropon Conc.	Geigy Chemical Corp.	Salt of a secondary alcohol sulfate	Detergent	Paste	63%	Anionic	Wool scouring cream shampoo; optimum detergency at 50°C.; moderately resistant to hard water
Alrosol Alrosol B	Geigy Chemical Corp.	Fatty alkylol amide condensate	Detergent Wetting	Liquid	87%	Nonionic	Thickener, wetting agent, lubricant; Alrosol B is 100% active and used in liquid detergents
Alrosol C	Geigy Chemical Corp.	Fatty alkylol amide condensate	Detergent	Liquid	100%	Nonionic	As for "Alrosol" with superior lathering and lime resistance; hair conditioning agent, shampoo
Alrosol O	Geigy Chemical Corp.	Fatty alkylol amide condensate	Emulsifier Dispersant	Paste	100%	Nonionic	Nonionic emulsifier and dispersing agent; for dry cleaning detergents and as a mineral oil emulsifier
Alrosol S	Geigy Chemical Corp.	Fatty alkylol amide condensate	Emulsifier	Solid	100%	Nonionic	Wax solid, dispersant, thickener, stabilizer
Alrosperse 11P	Geigy Chemical Corp.	Fatty amine condensate	Dispersant Emulsifier	Wax	100%	Nonionic	
Alrosperse DC	Geigy Chemical Corp.	Condensate	Detergent	Liquid	100%	Nonionic	Detergent for the solvent cleaning of metals, dry cleaning, fuel oil additive
Alrosperse 100	Geigy Chemical Corp.	A blend of nonionic and cationic agents	Emulsifier Dispersant	Liquid	100%	Cationic	Absorbs strongly to metallic and non-metallic surfaces; Use: Solvent cleaner for metal surfaces; dry cleaning agent for spotting
Alrowax 75	Geigy Chemical Corp.	A fatty condensate	Foam Stabilizer	Powder	100%	Nonionic	Foam stabilizer for synthetic detergents
Alrowax 95	Geigy Chemical Corp.	A fatty condensate	Foam Stabilizer	Powder	100%	Nonionic	Foam stabilizer for use with anionic detergents; also acts as a viscosity builder and as an opacifier

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Alrowax 140	Geigy Chemical Corp.	A fatty condensate		Powder	100%	Nonionic	High melting synthetic wax
Alrowet D-65	Geigy Chemical Corp.	Dioctyl sodium sulfosuccinate	Wetting	Liquid	75%	Anionic	A textile wetting agent
Amerchol L-101, CAB H-9, C, BL L-61	American Cholesterol Products, Inc.	Lanolin derivatives	Emulsifier	Liquid Paste	100%	Nonionic	Lanolin derived products containing free sterols and alcohols (1-101, CAB) or free sterols plus cholesterol esters (H-9, C and BL) or free sterols plus vegetable oil (L-61); Products are generally hypoallergenic and usually emollient. Uses: Pharmaceutical and cosmetic emulsifiers
Amerse (retail)	Vestal, Inc.	Quaternary ammonium salt	Germicide	Solid	30%	Cationic	In tablet form for easy dispensing; also available in liquid form; for preparation of general sanitizing solutions; sold through wholesalers
Amine C O S	Geigy Chemical Corp.	Heterocyclic tertiary amine 	Detergent	Solid	100%	Cationic	The alkyl is derived from lauric acid (C) oleic acid (D) and stearic acid (S). With alkyl halides they yield quaternary ammonium salts. See also "Amine 226," "Nopcogen 20-0" and "Ethomeen"; sanitizing detergent in acid solution, paint dispersant, textile softening agent
Arlacel 20 40 60 80 83 85	Atlas Powder Co.	Sorbitan monolaurate (20), monopalmitate (40), mono stearate (60), monoleate (80), thioleate (85) and sesquioleate (85)	Emulsifier	Liquid and Solid	100%	Nonionic	Cosmetic and pharmaceutical grade of the corresponding "Span" compounds, for use in topical applications; "Arlacel 83," is cosmetic and pharmaceutical grade of "Arlacel C"; "Arlacel 20, 80, 85" and "83" are liquids
Arlacel C	Atlas Powder Co.	Sorbitan sesquioleate	Emulsifier	Liquid	100%	Nonionic	W/O emulsifier
Arlacel 161	Atlas Powder Co.	Glycerol monostearate (non-self-emulsifying)	Emulsifier		100%	Nonionic	A high purity product for use in cosmetic and allied fields
Armac C, T, HT 8D, TD, 18D	Armour & Co.	Acetic acid salts of the n-alkyl amines	Emulsifier Bactericide	Solid	100%	Cationic	Flotation agents, corrosion inhibitors; A "D" following the amine name, indicates an "Armac" prepared from distilled amine. Numbers refer to fatty chain length. "C" is coconut acids; "S" soya; "T" tallow; and "HT" hardened tallow acids
Armeen 8, 12, 8D, 18, 18D, 12D, 16D, C, S, T, HT, CD, SD, TD, HTD, O, OD	Armour & Co.	Primary amines	Detergent Intermediate	Liquid and Solid	100%	Cationic	A series of primary amines with the alkyl group derived from fatty acids; intermediates for the preparation of corrosion inhibitors, flotation agents, etc.
Armeen 2C 2HT, 2S	Armour & Co.	Secondary amines (di-n-alkyl amines)	Detergent Intermediate	Solid	100%	Cationic	For corrosion inhibitors, flotation agents, etc.
Armeen DMCD DM16D DM18D DMSD	Armour & Co.	Tertiary amines (n-alkyl dimethyl amines)	Detergent Intermediate	Liquid	100%	Cationic	For corrosion inhibitors, flotation agents, quaternary synthesis, polyurethane catalysts, etc.
Armour Suds (retail)	Armour & Co.	A built alkyl aryl sodium sulfonate	Detergent	Beads		Anionic	A built all-purpose household detergent
Arquad 12, 16, 18 HT, C, S, T	Armour & Co.	n-alkyl trimethyl ammonium chlorides	Emulsifier Bactericide Softener	Liquid	50%	Cationic	Sanitizing agents, corrosion, inhibitors, textile softeners, anti-static agents; "Arquad 12" is also available in 33% concentration
Arquad 2C 2S	Armour & Co.	di-coco dimethyl ammonium chloride di-soya dimethyl ammonium chloride	Softener	Paste Liquid	75%		Textile and paper softening
Arquad 2HT	Armour & Co.	di-stearyl dimethyl ammonium chloride	Softener	Paste	75%	Cationic	Textile and paper softening, household laundry rinses
Atco DA	Metro-Atlantic, Inc.	Modified fatty acid amine condensate	Detergent Wetting	Liquid	30%	Nonionic	Textile

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Atco X-500	Metro-Atlantic, Inc.	Fatty acid amine condensate	Detergent Wetting	Liquid	95%	Nonionic	Textile
Atconil O	Metro-Atlantic, Inc.	Fatty alcohol polyglycol ether	Dye Leveling	Liquid	20%	Nonionic	Textile
Atcopal D	Metro-Atlantic, Inc.	Alkyl phenyl polyglycol ether	Detergent Wetting	Liquid	100%	Nonionic	Textile, household
Atcopon Special Hi Conc. 330	Metro-Atlantic, Inc.	$C_{17}H_{33}CON - C_2H_4SO_3Na$ (CH$_3$)	Detergent Wetting	Gel Liquid Liquid	17% 29% 33%	Anionic	Textile
Atcosyn	Metro-Atlantic, Inc.	Sodium salt of sulfated fatty amine	Detergent Wetting	Powder		Anionic	Textile
Atcoterge	Metro-Atlantic, Inc.	Fatty alcohol sodium sulfate	Detergent Wetting	Paste	30%	Anionic	Textile
Atcowet B	Metro-Atlantic, Inc.	Modified alkyl aryl sodium sulfonate	Detergent Wetting	Liquid	30%	Anionic	Textile
Atcowet T	Metro-Atlantic, Inc.	Dioctyl sodium sulfosuccinate	Wetting	Liquid	65%	Anionic	Textile
Atlasene 500C	Atlas Refinery, Inc.	Fatty alkylol amide condensate	Detergent Wetting	Liquid	100%	Nonionic	Fulling, scouring, soaping, dyeing, sanforizing
Atlox 1045	Atlas Powder Co.	Polyoxethylene sorbitol laurate	Emulsifier	Liquid	100%	Nonionic	For formulating agricultural chemicals
Atlox 1045A	Atlas Powder Co.	Polyoxyethylene sorbitol oleatelaurate	Emulsifier	Liquid	100%	Nonionic	For formulating agricultural chemicals
Atlox 1086 1087 1255 1256	Atlas Powder Co.	Polyoxyethylene fatty esters	Emulsifier	Liquid	100%	Nonionic	Emulsifiers for agricultural use; "Atlox 1086" is the sorbitol hexaoleate; "Atlox 1087" is the sorbitol septaoleate
2081 2085	Atlas Powder Co.	Sulfonated oil combined with polyoxyethylene sorbitol esters of mixed fatty and resins acids	Emulsifier	Liquid	100%	Anionic and Nonionic	For formulating agricultural chemicals
Atolene NR RW	Dexter Chemical Corp.	A sulfated ester of oleic acid (RW) Sodium salt of a sulfonated oleic acid (NR)	Wetting Lubricant	Liquid		Anionic	Textile yarn lubricant and dye leveling agent
Atpet 100 200	Atlas Powder Co.	Sorbitan monooleate	Emulsifier	Liquid	100%	Nonionic	Oil additive corrosion inhibitor forms W/O emulsions
Atpet 931	Atlas Powder Co.	Fatty acid ester	Emulsifier	Liquid		Nonionic	Designed as a petroleum oil well additive to prevent or remove "water block"
Avasol 114, 114A 153, 153A 66, 66A	Alframine Corp.	Fatty acid derivative	Emulsifier	Liquid	100%	Cationic	Emulsifier for insecticidal sprays; the designation "A" signifies that the product has been made neutral. "Avasol 153A" is derived from tall oil designed particularly for DDT and chlordane
Avasol 10 18 22	Alframine Corp.	A fatty acid derivative	Softener	Paste	40%	Cationic	For softening and dye-fixing of textiles
Avasol CFP 112P	Alframine Corp.	An alkylene carbonate condensate	Softener	Paste	100%	Nonionic	For softening, destaticizing and dye fixing of all textiles, synthetic and natural
Avasol 325 336	Alframine Corp.	A high molecular amino alcohol	Softener	Liquid Paste	40%	Nonionic	For softening and destaticizing synthetic textiles
Avasol S-3	Alframine Corp.	A fatty acid derivative	Softener	Powder	100%	Cationic	For softening and dye fixing of textiles
Avasol W	Alframine Corp.	A fatty acid derivative	Softener	Paste	40%	Cationic	For softening and dye fixing of textiles
Avitex AD	E. I. du Pont de Nemours & Co.	Sulfated alcohol derivative	Wetting Dispersant	Liquid		Anionic	Textile processing; dyeing assistant
Avitex C	E. I. du Pont de Nemours & Co.	Modified alcohol sulfate	Softener	Paste		Anionic	Textile and paper softening and lubricating agent
Avitex ML	E. I. du Pont de Nemours & Co.	Long chain quaternary amine	Softener	Liquid		Cationic	Textile softener
Avitex NA	E. I. du Pont de Nemours & Co.	Higher alkyl amine composition	Softener	Paste		Anionic	Antistatic and softening agent for textile finishing
Avitex R	E. I. du Pont de Nemours & Co.	Alkyl amine derivative	Softener	Paste		Anionic	Antistatic softening agent for textiles, etc.

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Avitex SF	E. I. du Pont de Nemours & Co.	Sodium cetyl alcohol sulfate	Softener	Paste		Anionic	Finishing agent for textiles
Avitex W	E. I. du Pont de Nemours & Co.	Sodium cetyl alcohol sulfate plus stearyl alcohol	Softener	Paste		Anionic	Finishing agent for textiles
Avitone A AL	E. I. du Pont de Nemours & Co.	Long chain hydrocarbon sulfonate composition	Softener	Paste		Anionic	Softening and lubricating finishing agent for textiles, paper and leather; Avitone AL is the same as Avitone A with added lubricant
Avitone SR	E. I. du Pont de Nemours & Co.	Long chain hydrocarbon composition	Softener	Paste		Cationic	Softening and lubricating textile finishing agent
Avitone T	E. I. du Pont de Nemours & Co.	Long chain hydrocarbon composition	Softener	Liquid		Cationic	Textile finishing and dyeing
Azocel	Synthetic Chemicals, Inc.		Wetting Penetrant	Liquid		Nonionic	
Barisol BRM	Dexter Chemical Corp.	Potassium salt of the phosphate of a complex multi carbon alcohol	Wetting Dispersant	Liquid	30%	Anionic	A textile wetting agent for dye leveling, pectin removal from cottons, etc.
Base 410M	E. F. Drew & Co.	Polyoxyalkylene esters and sulfonates	Emulsifier	Liquid	98%	Nonionic	Insecticide emulsifier for DDT, toxaphene, chlordane, etc.
Beaconol M	Beacon Chemical Co.	Potassium salt of monoethyl phenyl phenol monosulfonate	Wetting Dispersant			Anionic	Compare also with "Areskap 100"; uses: textile, leather paints
Beaconol S	Beacon Chemical Co.	Ammonium salt of monoethyl phenyl phenol monosulfonate	Wetting Dispersant			Anionic	Textile, leather, paper, paint, etc.
Belloid TD	Geigy Chemical Corp.	Polymethylene bis naphthalene sodium sulfonate	Dispersant	Powder	86-90%	Anionic	A dispersant for pigments, carbon black, dyes, etc.
Bemul	Beacon Chemical Co.	Glycerol monostearate	Emulsifier	Powder	100%	Nonionic	Water dispersible; used in cosmetics, shortening, lubricating oils; see also "Tegin," etc.
Ben Hur	Colgate-Palmolive Co.	Alkyl aryl sulfonate plus builders	Detergent	Powder		Anionic	Industrial washing powder
Bensaapol	Jacques Wolf & Co.	A modified sulfonated castor oil	Detergent	Liquid		Anionic	A textile scouring agent
Benzene Sodium Sulfonate	Nease Chemical Co.	As named	Wetting	Powder	95%	Anionic	Solubilizing agent, useful in extractions
Berapon CS-30	Berkshire Color & Chemical Corp.	Complex organic amido derivative	Softener	Paste		Cationic	For cotton, viscose, rayon and acetate
Berapon S-10	Berkshire Color & Chemical Corp.	Highly sulfonated vegetable oil with dispersed fats and oils	Softener	Liquid		Nonionic	Finishing agent for "Sanforized" goods
Berapon S-20	Berkshire Color & Chemical Corp.	Raw and sulfated higher alcohols	Softener	Paste		Anionic	For all types of textile fabrics
Berapon S-50	Berkshire Color & Chemical Corp.	Highly sulfated tallow	Lubricant Softener	Paste		Nonionic	Finish for cotton and rayon
Berapon S-60	Berkshire Color & Chemical Corp.	Complex fatty amido compound	Softener	Liquid		Ampho-teric	Animal, cellulosic and synthetic fibers
Amoco Sulfonate AA Purified	Amoco Chemicals Corp.	Petroleum sodium sulfonate	Emulsifier	Liquid		Anionic	Emulsifier for soluble oils
Amoco Sulfonate	Amoco Chemicals Corp.	Petroleum sodium sulfonate	Emulsifier	Liquid		Anionic	Rust preventives, less water soluble than AA purified
Ammonyx AO CO	Onyx Oil & Chemical Co.	Alkyl dimethyl amine oxide	Wetting Emulsifier	Liquid	20%	Cationic	A wetting agent in concentrated salt solutions; for oil emulsification; "Ammonyx CO." wetting agent in acid solutions, as well
Ammonyx G T	Onyx Oil & Chemical Co.	Cetyl dimethyl benzyl ammonium chloride	Germicide Fungicide	Paste Liquid	98% 25%	Cationic	Leather processing, textile dyeing auxiliary, general disinfectant; "Ammonyx T" is a 25% aqueous solution of "Ammonyx G"
Ammonyx DME	Onyx Oil & Chemical Co.	Cetyl dimethyl ethyl ammonium bromide	Germicide Fungicide	Liquid	75%	Cationic	General disinfecting and sanitizing agent; pharmaceutical applications
Ammonyx TRM	Onyx Oil & Chemical Co.	Cetyl trimethyl ammonium bromide	Germicide Fungicide	Liquid	60%	Cationic	General disinfecting and sanitizing agent; pharmaceutical applications
Antara DME	Antara Chemicals, division, General Aniline & Film Corp.	Nonyl phenoxy polyoxethylene ethanol	Emulsifier	Liquid	60%	Nonionic	Water-soluble nonionic emulsifier for crude and refined oils in drilling fluids; "DME" emulsions are stable to salt, anhydrite, and other contaminants

Trade Name	Manufacturer	Class and Formula	Main Uses	Form	% Conc.	Type	Remarks
Antara DMS	Antara Chemicals, division, General Aniline & Film Corp.	Nonyl phenoxy polyoxethylene ethanol		Liquid	60%	Nonionic	Water-soluble surfactant for drilling fluids; Inhibits swelling and dispersion of clays and formations solids; Stable at high temperatures; Protects producing formations; Improves completions
Antaron FC-34	Antara Chemicals, division, General Aniline & Film Corp.	Complex fatty amido compound	Detergent	Liquid	40%	Amphoteric	High foam, water soluble surfactant with soap like qualities; acid; salt and alkali stable; Uses: textile detergent, rug shampoos, hard surface detergent
Antarox G-100	Antara Chemicals, division, General Aniline & Film Corp.	Complex fatty amido compound	Dispersant	Liquid	100%	Nonionic	A nonionic surfactant which has cationic properties in acid media; stable in 10% sulfuric acid solutions; Use: viscose spin bath additive
Apasol W1345	Jacques Wolf & Co.	Alkyl polyoxyethylene glycol amide	Wetting Dispersant	Liquid	50%	Nonionic	A textile dyeing assistant
Apexomide	Apex Chemical Co.	A sulfonated ester of a fatty alcohol	Detergent	Liquid	25%	Nonionic	A textile scouring aid
Aquet (retail)	Manostat Corp.	Amine condensate	Detergent	Liquid	25%	Nonionic	A product for industrial use, such as in laboratories
Aquasperse 30	American Resinous Chemical Corp.	An alkyl aryl polyethylene glycol	Dispersant Wetting	Liquid	15%	Nonionic	Designed for use with latex paints
Arctic Syntex HD	Colgate-Palmolive Co.	A casein derived product	Detergent	Bead		Anionic	A heavy duty detergent
Arctic Syntex M beads	Colgate-Palmolive Co.	Alkyl aryl sulfonate plus builders	Detergent Emulsifier Wetting	Beads	31%	Anionic	Hygroscopic; similar to "Igepon T-73"; excellent detergent in acid, alkali and hard water; more stable than "Arctic Syntex A" General purpose industrial detergent in bead form
Arctic Syntex M Liquid	Colgate-Palmolive Co.	Sodium oleyl methyltaurate	Detergent	Liquid		Anionic	A liquid detergent for dish and car washing
Arctic Syntex 036	Colgate-Palmolive Co.	Polyoxyethylated nonylphenol	Detergent Wetting Emulsifier Dispersant	Liquid	100%	Nonionic	Textiles, agriculture, dairy, leather, paper, compounding
Areskap Aresket Aresklene							Products now manufactured by Roberts Chemical Co. under trade name R.W.A.
Arkolene D	Arkansas Co.	Sodium alkyl aryl sulfonate plus poly glycol fatty acid esters	Wetting	Liquid	40%	Anionic	Textile wetting agent
Arkolube LS	Arkansas Co.	High molecular weight fatty ester	Softener	Paste	50%	Nonionic	Textile applications
Beratex 510	Berskshire Color & Chemical Corp.	A modified alkyl aryl sulfonate	Detergent Wetting	Liquid		Anionic	A textile scouring agent
Berkopon BSW HGS RCW	Berskshire Color & Chemical Corp.		Detergent Wetting	Liquid		Nonionic	Textile bleaching, scouring and whitening agent
Berkopon SAN	Berskshire Color & Chemical Corp.	Alkyl aryl sodium sulfonate	Detergent	Flake	40%	Anionic	A textile detergent and dye assistant
Berkopon LD-52	Berskshire Color & Chomical Corp.	Sulfonated alcohol type with solvents	Detergent Wetting Emulsifier	Liquid		Anionic	Wetting and emulsifying agent for use in all types of textile processing
Berkopon RW-100	Berskshire Color & Chemical Corp.	Sulfonated aliphatic polyester	Wetting Rewetting	Liquid		Anionic	Wetting and rewetting agent on all fabrics
Betanol 152 401 520 540 560 564 701	Beacon Chemical Co.	High molecular weight esters	Emulsifier Wetting			Nonionic	Not acid or alkali stable; uses: cosmetics, pharmaceuticals, paints, etc.; "564" is an acid stable hydroxy ester for shampoos
Betasol	American Cyanamid Co.						Name given "Aerosols" when sold to leather trade

(To Be Continued)

TOMORROW'S PRODUCTS TODAY...THROUGH ENJAY PETROCHEMICALS



Basic raw materials for **DETERGENTS** that bring new ease to an old-fashioned job

Today's new detergents bring new ease to an old-fashioned job . . . keeping things clean. Even the grimiest woodwork and fixtures clean faster with these modern products.

If manufacturing detergents is your business, it will pay you to investigate Enjay Tridecyl alcohol, Tripropylene and Tetrapropylene—high-quality petrochemicals that can make a significant contribution in *your* process. These, and other Enjay petrochemicals, have essential roles in the manufacture of many new products for modern living.

With recently expanded laboratory facilities, the Enjay staff of highly trained technicians is ready to help *you* find new ways to new products through Enjay Petrochemicals. Contact the Enjay Company for further information.

ENJAY

Pioneer in Petrochemicals

Enjay offers a widely diversified line of petrochemicals for industry:

ALCOHOLS & SOLVENTS: Lower Alcohols, Oxo Alcohols, Ketones and Solvents; OIL & FUEL IMPROVERS: Detergent-Inhibitors, V-I Improvers, Oxidation-Inhibitors; CHEMICAL RAW MATERIALS: Olefins, Diolefins, Aromatics; ENJAY BUTYL RUBBER & VISTANEX.

ENJAY COMPANY, INC., 15 W. 51st STREET, NEW YORK 19, N. Y. Akron, Boston, Chicago, Detroit, Los Angeles, New Orleans, Tulsa



WYANDOTTE CHEMICALS CORPORATION, WYANDOTTE,



YOU WON'T FIND THE RIGHT PLURONIC LOOKING IN A CRYSTAL BALL

But there is a sure, easy way. It saves laboratory time . . . suggests in advance the characteristics you can get. Read how:

The PLURONIC* Grid lets you dispense with crystal-ball chemistry in selecting the block-polymer with the right surface-active or chemical properties.

With the Grid, random evaluation is eliminated. All you do is determine the characteristics you want, and choose the PLURONIC that suggests the best combination of properties for your product . . . then start formulating.

After a few laboratory tests, you can pinpoint the PLURONIC grade or combination of grades which offers you the most desirable properties and distinct competitive advantages.

In many cases, this has proved to be the only necessary step. Numerous new and important advantages in using the PLURONICS have been reported from many industrial fields following this procedure.

In the making of paper, for example, the viscosity of starch-adhesive coating colors containing 63% solids can be reduced 20% to 25% by the addition of PLURONIC L62. The viscosity of starch-latex coating colors containing 63% solids can be reduced 30% to 35%.

Consequently, higher viscosity starches can be used with higher pigment loading in the paper coating, without increasing coating-color viscosity.

If, after laboratory tests, you feel further improvement is possible, send us your results and we'll work with you from there. It may be that we have important new application data that will be useful. Also, new additions to the PLURONIC series, which we are adding from time to time, may prove helpful to you.

Makes sense, doesn't it? So why not send for your copy of our PLURONIC Grid today. Or, if you already have a Grid, the necessary samples are available upon request.

*REG. U.S. PAT. OFF.

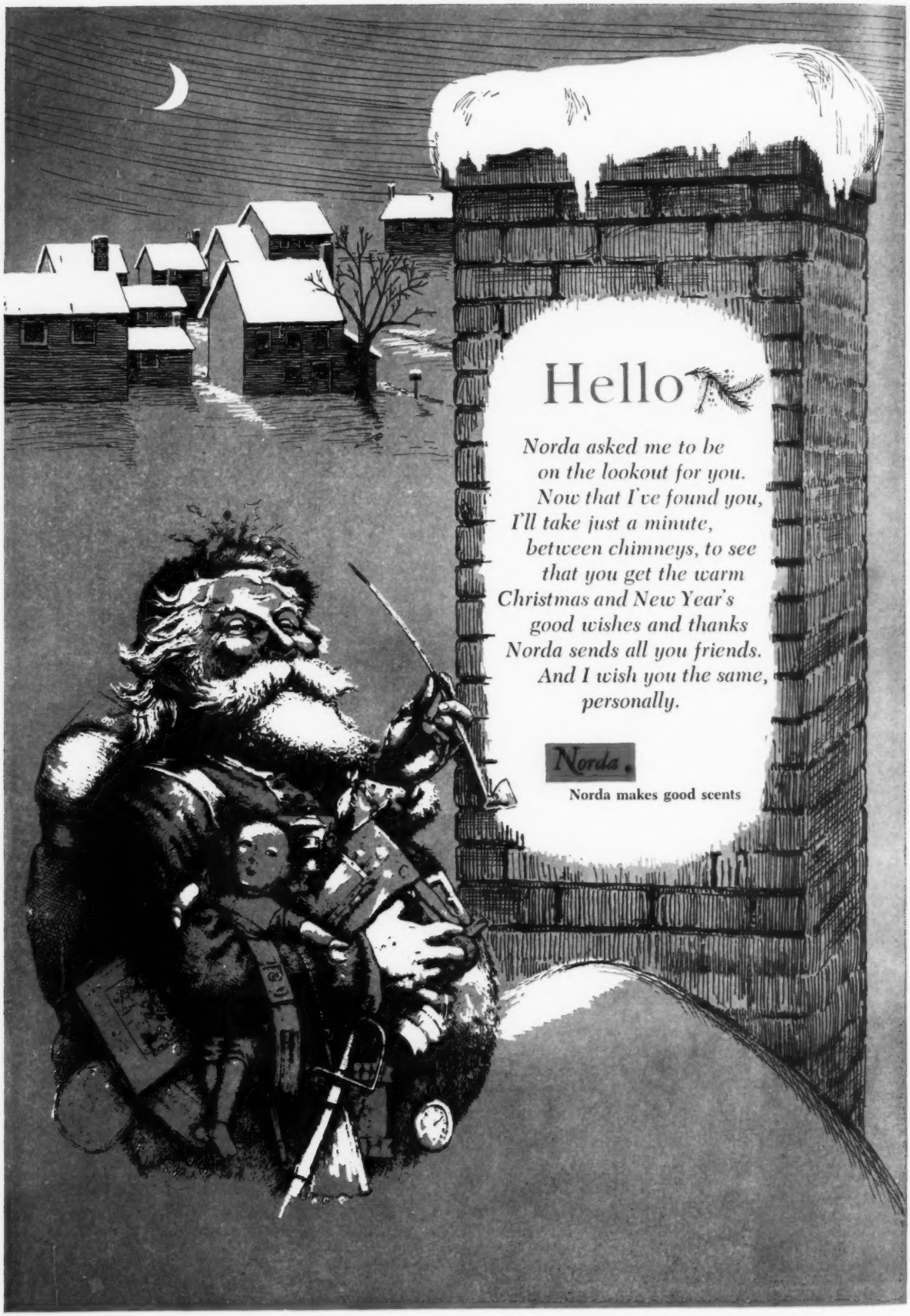
MICHIGAN ALKALI DIVISION

WYANDOTTE CHEMICALS

Wyandotte Chemicals

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA • CHLORINE • MURIATIC ACID • CALCIUM CARBONATE • CALCIUM CHLORIDE • GLYCOLS • CHLORINATED SOLVENTS • SYNTHETIC DETERGENTS
OTHER ORGANIC AND INORGANIC CHEMICALS

MICHIGAN • OFFICES IN PRINCIPAL CITIES


Hello
Norda asked me to be
on the lookout for you.
Now that I've found you,
I'll take just a minute,
between chimneys, to see
that you get the warm
Christmas and New Year's
good wishes and thanks
Norda sends all you friends.
And I wish you the same,
personally.
Norda.
Norda makes good scents

A Must! For Manufacturers of Liquid Dishwashing Detergents!



If you now market or are planning to market a liquid dishwashing detergent for the home, institutional or sanitary supply field, it will pay YOU to look into KRYSTALLEX raw materials. Krystall Chemical is a basic producer of detergent raw materials and can custom-tailor detergents to your precise needs. Every day, KRYSTALLEX detergents find more and more applications in nationally-known products; in hand cleaners, shampoos, textile and floor cleaners, all-purpose cleaners. Krystall Chemical takes special pride in its prompt service on all surfactant requirements, whether it be for a drum, carload or tank car. Write *today* for full details and technical help on how to improve your product, expand your markets, boost your profits . . . with Krystallex raw materials.

SOME OF THE EXPANDING KRYSTALLEX SERIES . . .

Krystallex S-63 A specially purified sodium dodecylbenzene sulfonate. Clear and odorless liquid. Excellent base for clear liquid formulations such as liquid dishwashing detergents.

Krystallex S A dodecylbenzene sulfonic acid.

Krystallex S-75 An ammonium alkyl phenoxyethylene sulfate.

Krystallex LA A 100% active non-ionic fatty acid alkanolamide manufactured for use as a foam stabilizer.

Krystallex C A sodium lauryl sulfate — characterized by its uniform high viscosity—excellent base for creme shampoos.

Krystallex A A sodium lauryl sulfate with a very low salt content and low viscosity.

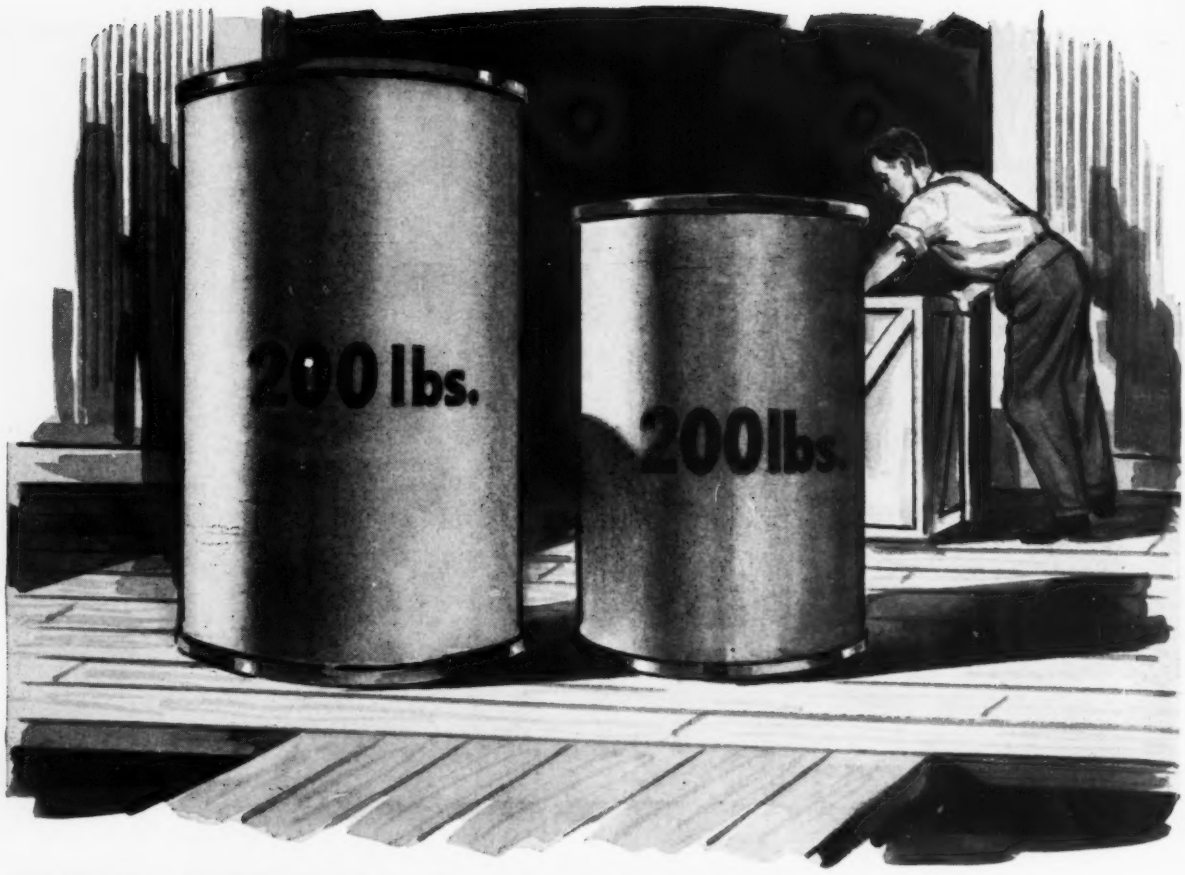
Krystallex T A triethanolamine lauryl sulfate. High activity, low cloud point, very light color and color stability toward light.

Krystallex S-26 A new detergent manufactured exclusively for shampoo use.

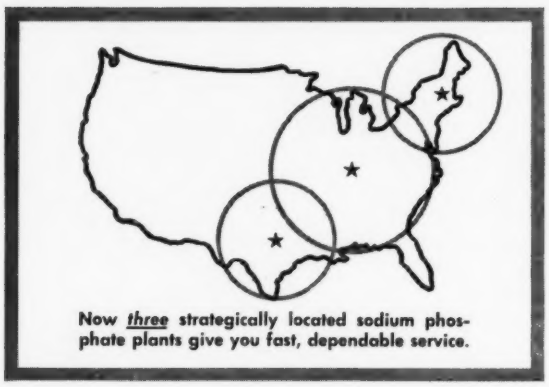
Krystall chemical co.

Phone Bittersweet 8-2325 2108 N. Southport Ave., Chicago 14, Ill.

"SPECIALTY ORGANIC CHEMICALS"



SHEA SODIUM PHOSPHATES
"fit the formula" for <u>both</u> products!



Now *<u>three</u>* strategically located sodium phosphate plants give you fast, dependable service.

Both of these drums contain the same *weight* of cleaning compound — because some products are light and fluffy — others are dense, concentrated. Not so long ago, the manufacturer of dry-mixed cleaning compounds had no choice when it came to the important sodium phosphates in his formula. All phosphates were made in the conventional, dense form.

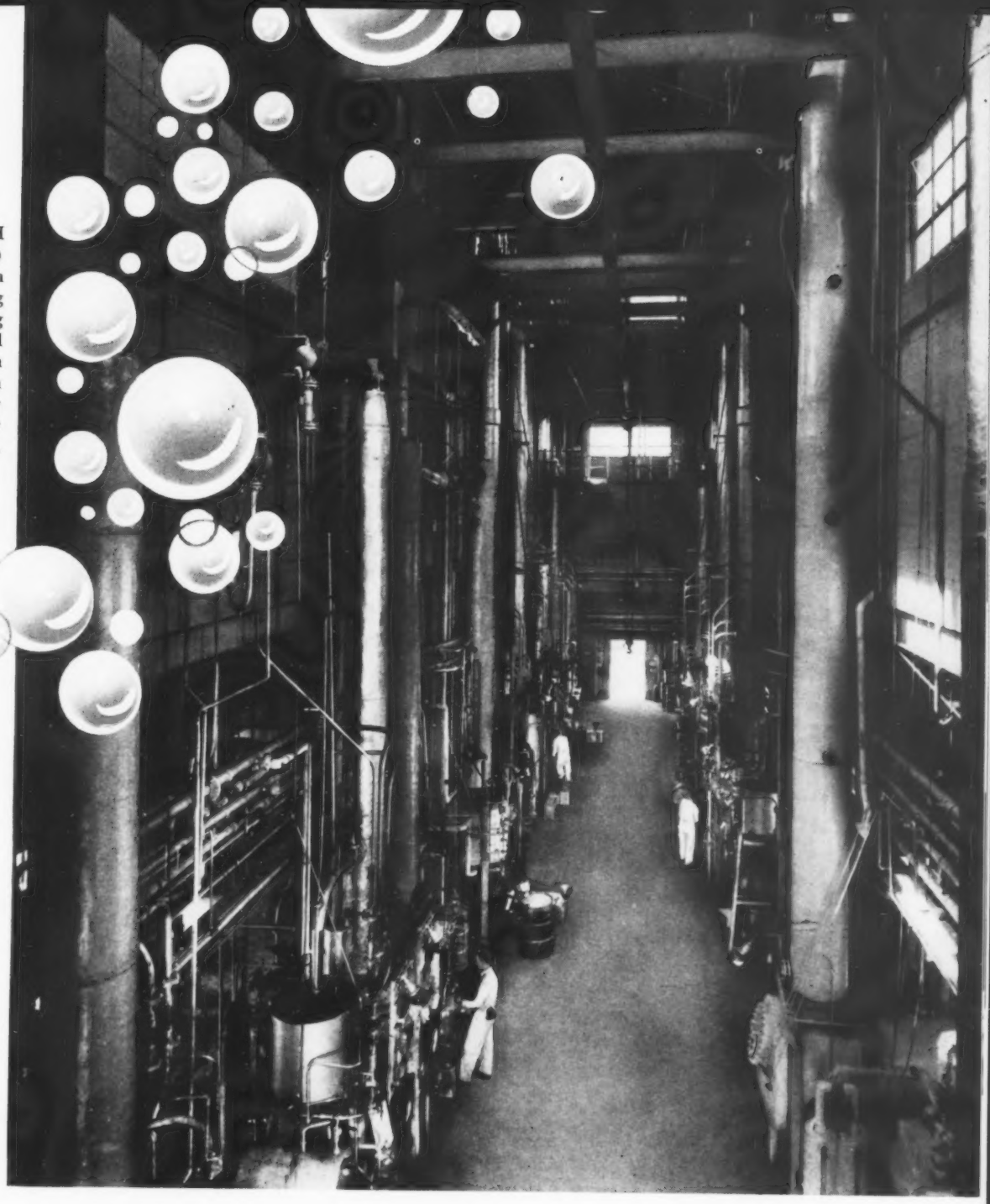
Then Shea pioneered spray-dried sodium phosphates — and the light, air filled beads were an immediate hit. Of course, Shea also makes dense phosphates. Important to detergent manufacturers is that Shea, and Shea only, offers both high and low bulk-density sodium phosphates . . . of unquestioned quality . . . in unfailing supply.

Sodium Tripolyphosphate
Tetrasodium Pyrophosphate
Disodium Phosphate
Trisodium Phosphate
Sodium Hexametaphosphate
Dicalcium Phosphate
Phosphoric Acids, Food and N. F. Grades
Phosphatic Feed Solutions
Organo Phosphorus Compounds
Elemental Phosphorus

SHEA CHEMICAL CORPORATION

P. O. Box 326
Jeffersonville, Indiana
Phone: BUtler 2-1381

114 East 40th St.
New York 16, New York
Phone: OXford 7-4553



Distillation building (VAH Union Beach, N. J. plant) showing high column stainless steel fractionating equipment. Among numerous VAH technical developments, are new column packing techniques which have added considerably to the efficiency of many distillation processes.



Finer Fragrance SELLS MORE SOAP

Today's trend to upgrade the quality of perfume used in soaps, directly results in increased sales and greater brand loyalty. van Ameringen-Haebler, Inc. has contributed to the soap-maker's ability to achieve these results by the development, through constant research, of distinctly new and finer aromatics, through the production economies made possible by modern, large-scale processing equipment and up-to-date techniques ... and through the creation of lovelier soap fragrances by its staff of master perfumers.

For the finest in fragrance—ask

van Ameringen-Haebler, Inc.

521 West 57th Street • New York 19, New York



"ARCHIE" STARTED SOMETHING

The petroleum which Nature created from prehistoric creatures such as Archeopteryx (Archie) eons ago, has come to a strange and wonderful new life today. In the form of *petrochemicals*, it now plays an ever-increasing part in the great chemical industry.

Sinclair's experience — raw materials — research — technical "know-how" — well located petrochemical facilities — all are at your service. Whatever your chemical needs, whether it's established tonnage chemicals or new products just emerging from the test tube — consult us today!

Anhydrous Ammonia • Ammonium Nitrate Solutions • Aqua Ammonia • Nitrogen Fertilizer Solutions • Aliphatic Solvents • Odorless Solvents • Aromatic Solvents • Heavy Aromatic Solvent • Toluene (Nitration Grade) • Xylene (Five Degree) • Para Xylene • Propylene Tetramer • Sulfur • Sulfonates (Oil Soluble) • Corrosion Inhibitors • Lube Oil Additives

SINCLAIR
CHEMICALS, INC.

(Affiliate of Sinclair Refining Company)
600 Fifth Avenue, New York, N. Y.
155 North Wacker Drive, Chicago, Ill.

VERSATILE--ECONOMICAL

Basic cleaning materials to meet your particular needs

Surfacto Co., Inc. provides you with reliable, low cost means of formulating your own products. In addition, research and development personnel are available to give any individual technical assistance desired.

SURCO 50

ammonium alkyl aryl sulfonate—low salt content
activity 50% min. ammonium sulfate 2.5% max.

Uses: car shampoos, liquid dishwashing compounds.

SURCO 38

ammonium alkyl aryl sulfonate in aqueous alcoholic solution
activity 38% min. ammonium sulfate 4.0%

Uses: car-shampoos, liquid dishwashing compounds.

SURCO 57

ammonium sulfated ethoxylated nonyl phenol in aqueous alcoholic solutions
activity 57% solids 62%

Uses: Auxiliary foaming agent for liquid dishwashing formulations; base material for neutral high foaming type car shampoos.

SURCO 40

Completely formulated liquid dishwashing detergent
organic content 37% min. solids 38% min.

SURFACTO MA

modified coconut alkanolamide condensate
moisture 1-2% FFA (cal. as oleic) 22-25%
haze point 12°F. pH-5% solution 8.9-9.0

Uses: Floor cleaner base; can be formulated into high inorganic cleaning preparation. (suggested formulas on request)

TSA Hydrotrope

toluene sulfonic acid

Uses: Coupling agent for formulas containing high phosphate or silicate components. (Available only in 300# fiber drums)

Stabilizer #2

lauric diethanolamine
titratable diethanolamide 30% max. moisture 2% max.
amide ester content 3% max. lauric diethanolamide 65% min.

Uses: Foam stabilizer in liquid dishwashing compounds, bubble baths; thickening agent in cosmetic applications.

Dodecyl benzene sulfonic acid

activity 88% min. unsulfonated 0.5% max.
moisture 4.0% max. free sulfuric acid 8.0% max.

Uses: Lends itself readily to neutralization with alkanomines, inorganic alkalis; coupling agent in liquid floor cleaners.

Coconut Condensate

diethanolamine coconut condensate
activity 100% titratable amine 28% acid value 9 max.

Uses: As thickening agent or adjusted with fatty acids to provide floor cleaner base.

For additional information, write to:

SURFACTO CO., INC.

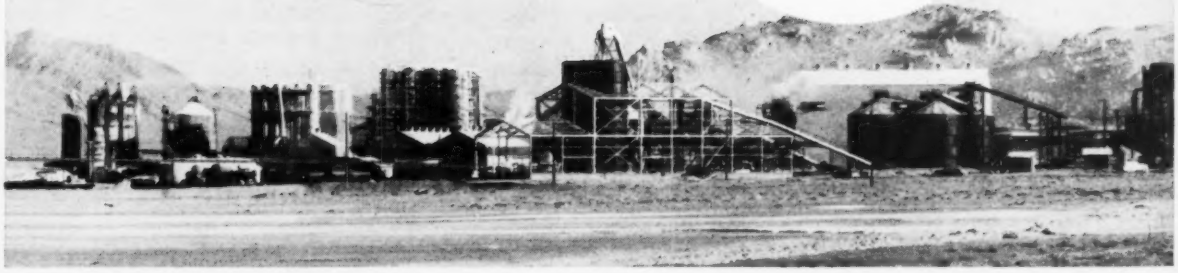
BOX 114 BLUE ISLAND, ILL.

West End® anhydrous **SODIUM SULFATE** merits your confidence for its consistent purity

Here is the new high standard of sodium sulfate quality achieved by exclusive West End production techniques and controls. The product is pure white and exceedingly low in heavy metal content. It is guaranteed 99½% minimum Na_2SO_4 yet actually runs 99.75% to 99.8% Na_2SO_4 typically. We invite your attention to the adjacent typical analysis and welcome your communication.

TYPICAL ANALYSIS

Na_2SO_4	99.5% or better
Na_2O	.05% max.
B_2O_3	.05% max.
NaCl	.07% max.
Insoluble	Trace
Loss on ignition	Less than 0.1%
Solution	Clear
Color	White
Fe	1 ppm
As	1½ ppm
Cu & Zn	Not detectable



WEST END

West End Chemical Company

DIVISION OF STAUFFER CHEMICAL COMPANY

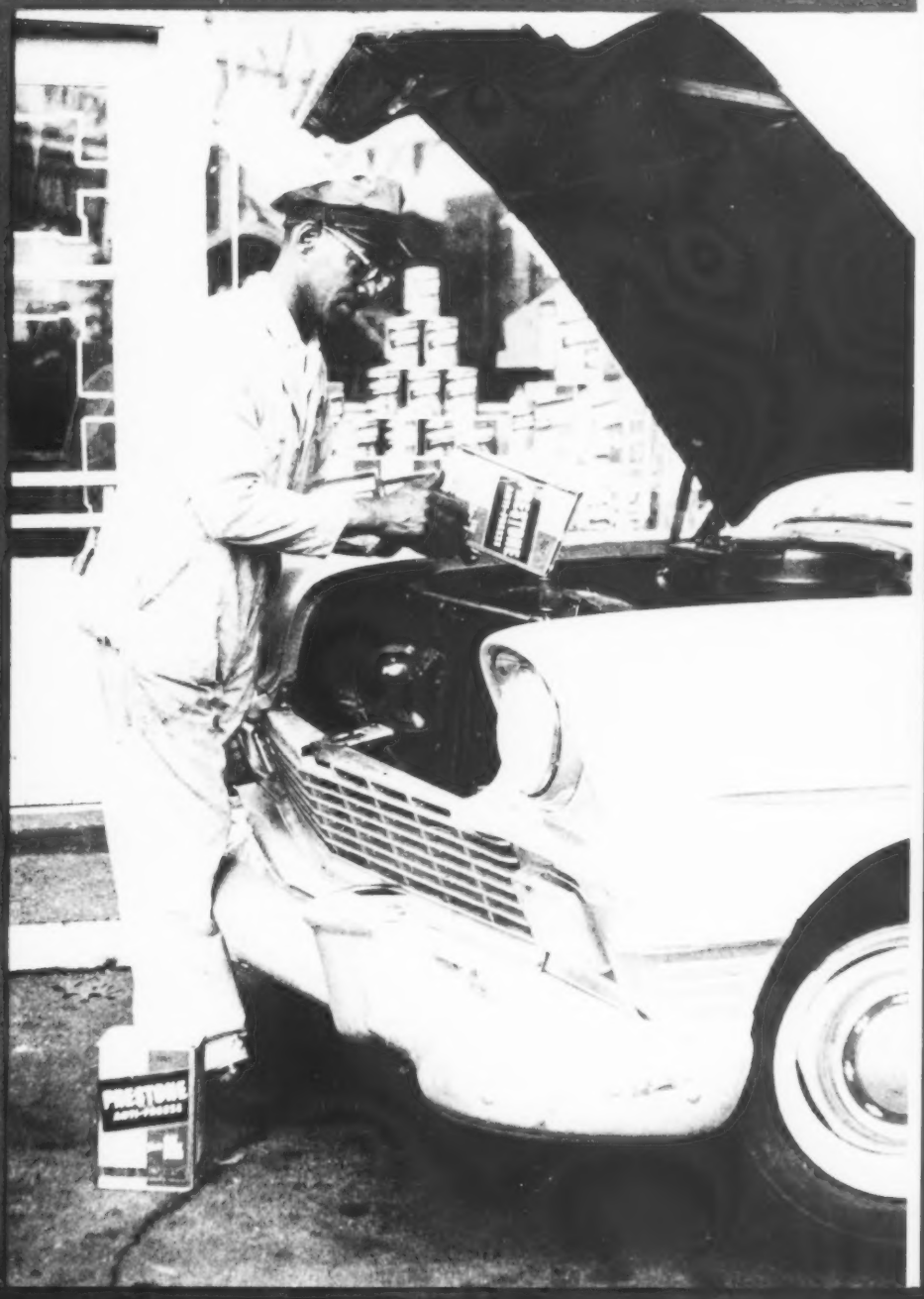
EXECUTIVE OFFICES, 1956 WEBSTER, OAKLAND 12, CALIF. • PLANT, WESTEND, CALIF.

SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME



Chemical Specialties . . .

Aerosols
Automotive products
Bleaches
Bowl cleaners
Carpet cleaners
Cleaning fluids
Deodorants
Disinfectants
Floor Waxes
and other floor products
Glass cleaners
Household ammonia
Insecticides
Mildew compounds
Moth specialties
Polishes
Repellents
Rodenticides
Sanitizers
Skin protectants
Stock sprays
Sweeping compounds
Wax strippers
Weed chemicals
and other
Chemical Specialties



Familiar autumn sight: putting antifreeze into car's cooling system. Problem of antifreeze maker is to get his material to market in short time for which there is a demand for the product. *See page 109.*

NEW GUARD FOR FLOORS





FOR INSTITUTIONS



FOR HOMES



FOR BUSINESS AREAS



FOR OFFICES

FROM THE CHEMISTRY OF VINYLS



RESYN® 25-2400 FLOOR POLISH BASE

RESYN 25-2400 is a spectacular vinyl plastic. An entirely new base for floor polishes. Originated and developed with the same skills and know-how that have made National Starch a leading producer of similar products for paints, adhesives and other industrial coatings.

Look at this great new family of properties from one resin:

FOR TRADE SALES FORMULATIONS • High deep gloss. Excellent wear and scuff resistance. Exceptional water spot resistance. Package stability. Easy removability. Little or no loss of gloss on aging.

FOR REBUFFABLE INDUSTRIAL MAINTENANCE FORMULATIONS • High initial gloss without buffing. Excellent leveling characteristics. Very high water resistance. Lasting durability. Excellent scuff and slip resistance. Easy removability. Brilliant gloss on buffing.

RESYN 25-2400 formulations provide gloss build-up without yellowing after re-application. Other important features: No clouding on light surfaces. Non-tacky, less dirt pick-up. Unaffected by freezing, thawing or exposure to high temperatures.

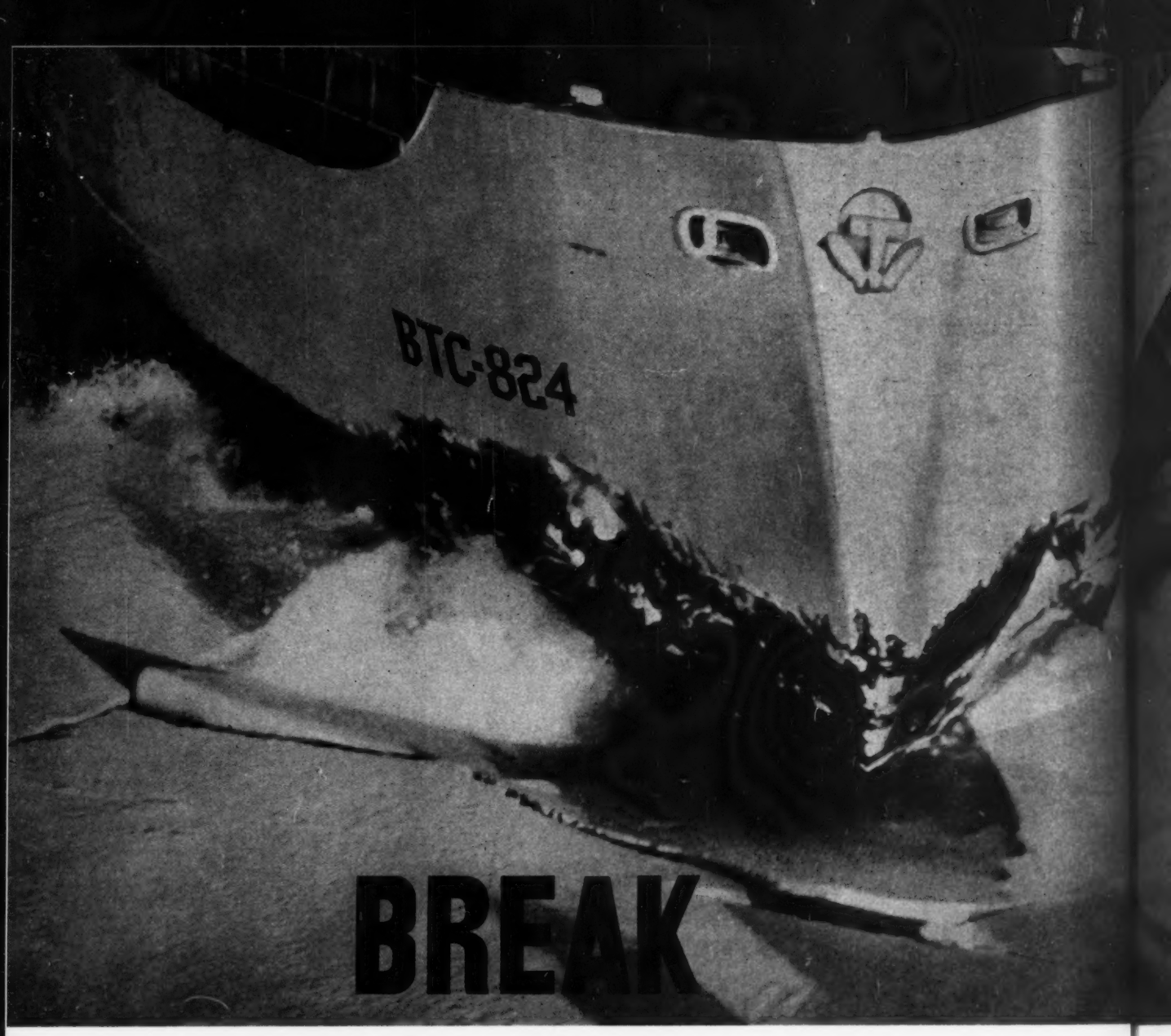
SEE FOR YOURSELF • Polishes made with RESYN 25-2400 may be applied to all types of floors. They're simple to make. This new guard for floors is supplied in emulsion form and requires no chemical or resinous plasticizer. Write today for complete information and a sample kit containing RESYN 25-2400, a trade-sales floor polish and a rebuffable industrial maintenance polish.

RESIN DIVISION

National

STARCH PRODUCTS INC.

270 Madison Avenue, New York 16 • 3641 So. Washtenaw Avenue, Chicago 32 • 735 Battery Street, San Francisco 11



BREAK THE HARD WATER BARRIER

* *U.S. Department of Agriculture in Interpretation 21, Federal Register, September, 1956*



to your germicide sales...with BTC-824.®

This *high-molecular-weight* quaternary with a water-hardness level of 500 ppm will help you break the ice to expanded markets. The untapped hard-water areas, where other quaternaries have failed, are waiting for the germicide manufacturer who will base his quaternary formulations on Onyx' BTC-824.®

A specific method for the determination of bactericidal effect of quaternary-based germicides and sanitizers in hard waters is outlined in the Federal Register.* Thus, the user or any regulatory agency can quickly check product effectiveness by referring to the product label.†

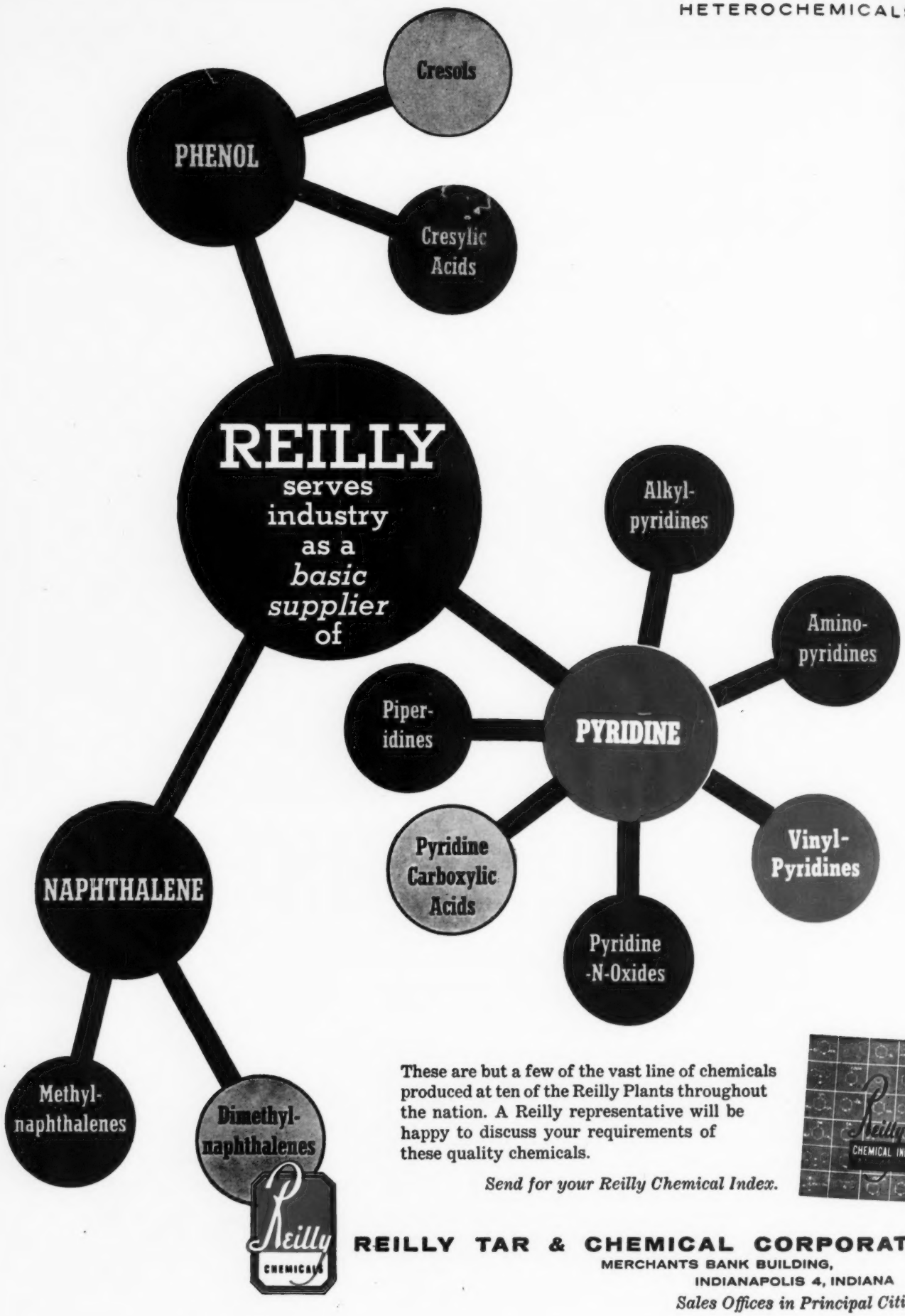
Your label claim will make the sales difference! Current regulations recommend, *many require*, that the hard-water tolerance level be stated on the product label. Onyx can confidently offer germicide manufacturers superior quaternaries that have the *highest hard-water tolerance* and that have *accepted* label claims.

Onyx quaternaries—some with a water-hardness tolerance as high as 1,100 ppm—and formulations based on them, have been thoroughly tested and documented. This data has been reviewed and accepted by the proper authorities and can be used to form the basis for your label claims when you use these Onyx products. This valuable information is ready for you now to help you gain this expanded market without delay! Phone or wire at once for the complete story. Ask for Bulletin HW-6-7. ONYX OIL & CHEMICAL COMPANY, Industrial Division, 190 Warren Street, Jersey City 2, N. J.

† 

ask the man from ONYX

ONYX CHEMICALS



These are but a few of the vast line of chemicals produced at ten of the Reilly Plants throughout the nation. A Reilly representative will be happy to discuss your requirements of these quality chemicals.

Send for your Reilly Chemical Index.

REILLY TAR & CHEMICAL CORPORATION

MERCHANTS BANK BUILDING,
INDIANAPOLIS 4, INDIANA

Sales Offices in Principal Cities

Sign up now for the 1958

CHLORDANE

INSECTICIDE PROGRAM



For many years, Chlordane promotional campaigns have helped formulators increase demand at the dealer level. The good effect that this support has in sales was proven conclusively by the 1957 Chlordane "Show and Sell" Contest.

In 1958, we would like to increase this support of your own sales program. For this reason, we have taken the best features of previous programs, and added new features, based on information obtained in discussions with garden supply dealers everywhere. The result is a more comprehensive and penetrating program: Sales support in depth.

EDUCATIONAL PROGRAM

This program will contain more of the old stand bys—consumer advertising and promotional aids—plus an entirely new educational campaign. We have found that most dealers appreciate more information about the use of insecticides. Many dealers who are experts themselves must work with green sales people. Also, your own salesmen cannot afford to spend the time necessary to explain all aspects of insecticide use to all dealer personnel. Thus, the 1958 Chlordane program will include an informative "dealer refresher course" on insecticides. Your dealers will be provided with information that will enable them to discuss insecticides more freely with their customers. It will enable them to sell insecticides with authority and intelligence. Included in the program will be "Down-To-Earth" sales techniques that every dealer can use, regardless of size.

FIND OUT NOW HOW THE 1958 CHLORDANE DEALER PROGRAM CAN HELP YOU INCREASE SALES AND DISTRIBUTION! MAIL THIS COUPON TODAY!

VELSICOL **VELSICOL**

CHEMICAL CORPORATION

330 East Grand Avenue **Chicago 11, Illinois**

MONTHLY NEWSLETTER—NEW PROMOTIONAL AIDS

Current insect control information will be provided on a continuing basis through a monthly newsletter. There will also be many other profit-making promotional aids.

SALES INCENTIVE CONTEST

In addition Chlordane will sponsor a $10,000 display contest for dealers. There will also be special cash bonuses and cash prizes for formulator and distributor salesmen.



NATIONAL PRIZE WINNERS 1957 CHLORDANE SHOW AND SELL CONTEST

1. East Bay Nursery, Berkeley, Calif. ..... Trip to Paris for two.
2. Treeland Garden Center, Lindenhurst, L.I., N.Y. $750.00
3. Argilla & Boscacci, Redwood City, Calif. $375.00
4. Orr Seed Company, Norfolk, Virginia $200.00
5. Ferd Staffel Company, San Antonio, Texas $100.00

AA-127

VELSICOL CHEMICAL CORPORATION
330 East Grand Avenue
Chicago 11, Illinois

Send me complete information about the 1958 Chlordane Insecticide Dealer Program.

My Name_____

Store Name_____

Address_____

City_____ Zone_____ State_____

Greetings . . . .

GREETINGS to all those in attendance at the 44th annual meeting of the Chemical Specialties Manufacturers Association from your officers and board. May your stay at Hollywood Beach be highly profitable businesswise and may it also be a highly enjoyable occasion to look back upon.

Also the officers and board of CSMA want to take this opportunity to extend best season's greetings to our members and to all those in the broad chemical specialties industry.

This meeting is our 44th annual convention. Next year, our 45th annual meeting will be held at the Hotel Commodore in New York, one of the few New York hotels able to accommodate our greatly enlarged ranks.

Again, greetings and best wishes for 1958!

H. W. HAMILTON, *Secretary*

CHEMICAL SPECIALTIES MFRS. ASSOCIATION — FOUNDED CSMA 1914

Chemical Specialties Manufacturers Association, Inc.

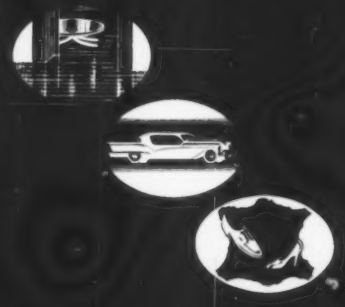
50 East 41st Street **New York 17, N. Y.**

"THE BRIDGE OF CONFIDENCE"

HOECHST*

WAXES

Cross over the bridge to New Profit Opportunities with HIGH-QUALITY, "HOECHST" Waxes



UNIFORM CHEMICAL PROPERTIES
Consistently Maintained

POSITIVE PURITY OF PRODUCT
No Adulterants

CONTINUOUS DELIVERIES ASSURED

*Formerly Gersthofen (I.G.) Waxes

Discover many new money-saving ways to improve your present formulae or develop profitable new formulations with famous "HOECHST" Waxes. The assistance of our skilled Technical Staff is available on request.

For waxes of *Superior HARDNESS*, be sure to inquire about the many new "HOECHST" Ester Waxes with a *Penetration of LESS THAN ONE*.

Unsurpassed for:

- **SELF-POLISHING FLOOR WAXES • CAR POLISHES**
- **FURNITURE POLISHES • CARBON PAPERS**
- **SHOE POLISHES • LEATHER TANNING and DRESSING**
- **PLASTIC EXTRUSION and INJECTION MOLDING**
- **INVESTMENT CASTING**

and Many Other Applications.

For samples, specifications, and quotations, write or call:

WAX & ROSIN PRODUCTS

SOLE DISTRIBUTORS OF "HOECHST" WAXES FOR THE U.S.A.
42 Broadway, New York 4, N. Y. • WHitehall 4-7365 • Cable: WAROPROD

Annual Convention I



Time is short if you do not want to miss this big annual convention issue . . .

Copy closing date for advertising is *January 10!*

If you want further information, wire us collect today.

The special annual Convention and Trade Show issue of MAINTENANCE & SANITARY SUPPLIES will be the February issue this year. Here is the opportunity to blanket the sanitary supply and equipment jobbers with your advertising — tell your sales story to more jobbers than ever before where it will be read carefully . . .

In this annual convention issue of MSS, your advertising will be read by more than 5,800 jobbers of sanitary supplies and equipment, — janitor supply jobbers, paper jobbers, school supply jobbers, hotel, restaurant, club and bar supply jobbers, hardware distributors, and others jobbing sanitary supplies, who sell *over a billion dollars worth* of sanitary supplies and equipment annually . . .

Plus a copy of this issue of MSS distributed to everybody who attends the annual Trade Show of the National Sanitary Supply Association in New York, February 22-25, 1958.

Over 5,800 sanitary supply jobbers will read this issue

MAINTENANCE & SANITARY SUPPLIES

Member BPA

Issue...

MAINTENANCE and SANITARY SUPPLIES FEBRUARY 1958

for distribution at the NSSA's 1st New York Show

. . . copy closing January 10.

If you want your advertising to be read by over 5,800 sanitary supply jobbers plus everybody attending the annual convention and trade show

. . . don't miss this special issue!

Advance reservations guarantee this will be the biggest jobber show in history.

....published by MacNAIR-DORLAND COMPANY

254 West 31st St., New York 1, N. Y.

MGK Firsts WITH PYRETHRUM

☆ FIRST TO STANDARDIZE

Early day pyrethrum sprays varied in killing power. In 1930, MGK published the *first* method of pyrethrin assay. MGK produced the original standardized concentrate.

☆ FIRST TO PURIFY—STABILIZE

Pyrethrum concentrate, as originally produced, was so dark and cloudy as to be almost opaque and had an unnatural odor. MGK from 1936 to 1938 produced the *first* clarified, deodorized and stabilized pyrethrum concentrate.

☆ FIRST TO DEWAX

Pyrethrum concentrate contains a natural wax. This wax retarded packaging and interfered with the workability of early army aerosols. MGK produced the first highly concentrated pyrethrum extract practically free of freon-insoluble materials, thereby permitting a revision in military specifications for improved aerosols during World War II.

☆ FIRST NON-STAINING PYRETHRUM CONCENTRATE

When MGK announced their Pyrocide 175 RC concentrate in May, 1957, this was the first concentrate which would produce a non-staining aerosol formulation.

PYRETHRUM IS BASIC WITH MGK

McLAUGHLIN GORMLEY KING COMPANY
1715 S. E. Fifth Street • Minneapolis, Minnesota

● Please send us your free Color Comparator for use in our laboratory and full information about formulating non-staining aerosols.

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*Address*_____

*City*_____ *Zone*____ *State*_____

MGK McLAUGHLIN GORMLEY KING Company
1715 S.E. Fifth Street ● Minneapolis, Minnesota

CSMA Meeting in Florida...

Chemical Specialties Manufacturers Assn. elects James E. Ferris president at 44th annual meeting, Dec. 9-12, in Hollywood

JAMES EDWARD FERRIS of Hooker Electrochemical Co., Niagara Falls, N. Y., was elected president of the Chemical Specialties Manufacturers Assn. at the first session of the 44th annual CSMA meeting. The convention, probably the largest in the history of the association, is being held at the Hollywood Beach Hotel, Hollywood, Fla. It opened Monday, Dec. 9 and runs through Thursday, Dec. 12.

Mr. Ferris, who served as first vice-president of CSMA in 1957, succeeds Harry E. Peterson of Peterson Filling and Packaging Co., Danville, Ill. The election, which took place during the general session, the morning of Dec. 9, featured the election of Donald M. King, president of Masury-Young Co., Boston, as first vice-president, and George W. Fiero, Esso Standard Oil Co., New York, as second vice-president. Mr. King was second vice-president during 1957 and Mr. Fiero was chairman of the policy advisory committee of CSMA.

Peter C. Reilly, Reilly Tar & Chemical Corp., Indianapolis, was reelected treasurer and H. W. Hamilton, CSMA secretary and managing director, was renamed to that post.

Newly elected members of the board of governors include: Charles E. Beach, John C. Stalfort & Sons, Baltimore and Charles E. Allderdice, Jr., Bell Co., Chicago.

The CSMA board is now composed of the officers and directors named above plus the chairmen of the administrative committees of the six divisions of the association and the following hold-over members of the board: Melvin Fuld, Fuld Brothers, Inc., Baltimore; Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York; Ira P. MacNair, MacNair-Dorland Co., publishers of *Soap & Chemical Specialties* magazine, official publication of CSMA; A. E. Budner, S. C. Johnson & Son, Inc., Racine, Wis.; Emil G. Klarmann, Lehn & Fink Products Corp., New York; Russell G. Puhle, Tykor Products Division, Borden Co., New York, and Harry E. Peterson, retiring president.

Chairmen of divisional administrative committees who were elected at the midyear meeting in Chicago last May and who become members of the board of governors are: (Aerosol Division) W. Earl Graham, Clayton Corp., St. Louis; (Automotive Division) A. James Coulter, Gulf Oil Corp., Pittsburgh; (Disinfectants and Sanitizers Division) Irving Gaines, Onyx Oil & Chemical Co., Jersey City, N. J.; (Insecticide Division) John A. Rodda, Fairfield Chemical Division, Food Machinery & Chemical Corp., New York; (Soaps, Detergents and Sanitary Chemical Products Division) Clarence L. Weirich, reelected, C. B. Dolge Co., Westport, Conn., and (Waxes and Floor Finishes Division) Cyril S. Kimball, Foster D. Snell, Inc., New York.

The general session at which the elections took place was presided over by retiring president



Meet the president . . .

PRODUCT manager of inorganic chemicals for Hooker Electrochemical Co., Niagara Falls, N. Y., Jim Ferris knows a great deal more about chemical specialties than such a title implies. His first job—a part-time one while a student at Northeastern College, Boston, from 1922 to 1926—was as a chemist in the laboratories of Lever Bros., Cambridge.

Upon his graduation with a bachelor of chemical engineering degree he joined Niagara Alkali Co. as a chemist in Niagara Falls, which was fortuitous in more ways than one. For it was in Niagara Falls that he met Pauline Curry, later Mrs. Ferris. After four years in a laboratory, Jim escaped via the sales route. He was a company salesman from 1931 to 1953, when Niagara named him director of sales. In his sales experience he came to know the problems of the chemical specialties manufacturers by selling paradichlorobenzene for moth control to the leading packers, and alkalies to the shellac producers, and potash to liquid soap makers. When Niagara was taken over by Hooker last year Jim became manager of inorganic chemicals and earlier this year moved back to Niagara Falls. He is a former president of the Salesmen's Association of the American Chemical Industry; served on the board of the Compressed Gas Association for two years and has been active in CSMA as first and second vice-president and has done other committee work.

Jim and Pauline have two sons, James and William. James is a sophomore at Niagara University, and William is in Frankfurt, Germany with the Army.

Program for the 44th Annual Meeting Chemical Specialties Manufacturers Assn., Hollywood (Fla.) Beach Hotel. Monday - Thursday, December 9 - 12

Monday Morning, Dec. 9

9:00 A.M. Board of Governors—Esquire Room

General Meeting—Pageant Room

Harry E. Peterson, presiding

11:00 A.M.

G-1 Address of Welcome, by Frank L. Holland, Florida Agricultural Research Institute, Winter Haven, Fla.

G-2 Presentation of Aerosol Package Contest Awards, by Frederick G. Lodes, Lodes Aerosol Consultants, Inc., New York

G-3 Report of the nominating committee, by E. G. Klarmann, Lehn & Fink Products Co., New York

G-4 Election of officers and board of governors for 1958

G-5 Address by Philip W. Moore, president, First Florida Corp., Miami

Monday Afternoon, Dec. 9

2:30-5:00 P.M.
Committees

Monday Evening, Dec. 9

6:00-7:30 Hawaiian Cocktail Party

7:00-10:00 Hawaiian dinner and entertainment

Tuesday Morning, Dec. 10

Automotive Division—Pageant Room South

Harold G. Lederer, presiding

9:00 A.M.

Au-1 Address of Division Chairman, Harold G. Lederer, R. M. Hollingshead Corp., Camden, N. J.

Au-2 Committee Reports

Au-3 Antifreeze Symposium; A. E. Tongue, Olin-Mathieson Chemical Corp., Baltimore, moderator. A. "The Anti-Freeze Market—Present and Future", by E. R. Boedeker, Dow Chemical Co., Midland, Mich.; B. "Corrosion Testing of Metals in Automobile Cooling Systems", by J. W. Compton, Wyandotte Chemicals Corp., Wyandotte, Mich.; C. "Quality Control in Anti-Freeze Manufacturing", by R. R. Bennett, Commercial Solvents Corp., Terre Haute, Ind.; D. "Antifreeze Performance Testing—A Three-Step Program", by C. H. Sweatt, National Carbon Co., Division of Union Carbide Corp., New York.

Au-4 "Helpful Remarks to Manufacturers of Cleaners, Sealers, and Inhibitors for Automotive Cooling Systems", by L. M. Lewton, Harrison Radiator Division, General Motors Corp., Lockport, N. Y.

Au-5 Report on the Products Survey on Radiator Products and Polishes, by C. E. Allerdice, Bell Co., Chicago.

Disinfectant and Sanitizers Division—Esquire Room

A. G. Bowers, presiding

9:00 A.M.

D-1 Address of Division Chairman, A. G. Bowers, Pioneer Manufacturing Co., Cleveland.

D-2 "Absolute Disinfection of Clinical Thermometers", by Frank B. Engley, School of Medicine, University of Missouri, Columbia, Mo.

D-3 "How a Disinfectant Disinfects", by S. S. Block, University of Florida, Gainesville.

D-4 Review of Current and Proposed Disinfectant Labeling Requirements", by R. L. Ackerly, Cummings, Sellers, Reeves, and Conner; Washington, D. C.

D-5 Report of the Scientific Committee, by A. S. duBois, West Chemical Products Co., Long Island City, N. Y.

Insecticide Division—Pageant Room North

Carlos Kampmeier, presiding

I-1 Address of Division Chairman, Carlos Kampmeier, Rohm & Haas Co., Philadelphia

I-2 "Insect Repellents", by Carroll N. Smith, U. S. Department of Agriculture, Orlando, Fla.

I-3 "Methoxychlor Synergized by Sesoxane", by Homer E. Fairchild, E. I. du Pont de Nemours & Co., Wilmington, Del.

I-4 "What Kind of Pesticides Do We Need in Florida?", by William A. Simanton, University of Florida, Lake Alfred, Fla.

I-5 Report of Insecticide Division Chemical Analysis Committee, by Mark L. Hill, Gulf Oil Corp., Philadelphia.

I-6 Report of Scientific Committee, by Herman G. Schroeder, Fairfield Chemical Division, Baltimore.

Waxes and Floor Finishes Division—Mayfair Room South

H. J. Mellan, presiding

9:00 A.M.

W-1 Address of Division Chairman, H. J. Mellan, Durez Plastics Division, Hooker Electrochemical Co., North Tonawanda, N. Y.

W-2 "A-C Polyethylene in Specialty Polish", by Robert Rosenbaum and Ralph F. Bock, Semet-Solvay Petrochemical Division, Allied Chemical & Dye Corp., New York, delivered by R. E. Clark.

W-3 "Study of Refined Shellac in Admixture with Polymeric Materials", by B. G. Brand, R. W. Bird and E. R. Mueller, Battelle Memorial Institute, Columbus, O., delivered by B. G. Brand.

W-4 "Investigation of 'Lanfrax' as an Emulsifying Aid for Wax Dispersion", by George D. Burns and Daniel Schoenholz, Foster D. Snell, Inc., New York.

W-5 "Radio-Isotope Testing for Wear of Polishes", by George J. Fuld, Melvin Fuld, Harry Broli and Charles Pinchback, Fuld Brothers, Inc., Baltimore, delivered by Melvin Fuld.

W-6 "The Structure of Floor Finishes Based on Polystyrene Emulsions", by Roland M. Avery, Jr., and Lloyd H. Perry, UBS Laboratories, Inc., Cambridge, Mass., delivered by R. M. Avery.

W-7 "Observations on Marketing", by D. H. Terry, The Bon Ami Co., New York.

W-8 Report of Scientific Committee, by Donald Whyte, S. C. Johnson & Son, Inc., Racine, Wis.

Aerosol Division, Scientific Committee—Vogue Room

10:00 A.M.

A-7 "Gulf 'S.A.' Aerosol Valve", by A. J. Samuel and R. V. Sharpless, Gulf Research & Development Co., Pittsburgh, Pa., delivered by R. V. Sharpless.

A-8 "A Method for the Determination of Discharge Rates from Pressurized Packs", by K. Dixon, Cooper, McDougall and Robertson, Ltd., Berkhamsted, Herts; R. A. Gunn-Smith, A. Herzka, R. M. Mumford and A. Simpson, Metal Box Co., London, England.

Tuesday Afternoon, Dec. 10

Soap, Detergents and Sanitary Chemical Products Division—Pageant Room South

Clarence L. Weirich, presiding

2:30 P.M.

S-1 "A Statistical Experimental Design for Studying Detergents", by R. C. Ferris, Morris Patapoff,and John F. Pietz, Purex Corp., South Gate, Calif., delivered by R. C. Ferris.

S-2 "The Use of Rinse Additives in Machine Dishwashing", by John L. Wilson and William G. Mizuno, Economics Laboratory, Inc., St. Paul, Minn., delivered by J. L. Wilson.

S-3 Report of the Commercial Standards Committee, by Chapin Stevens, Antara Chemicals Division, General Aniline & Film Corp., New York.

Tuesday Evening, Dec. 10

"Open House Party"—Mayfair Room 6:30 to midnight

Wednesday Morning, Dec. 11

Aerosol Division—Pageant Room

Charles E. Beach, presiding

9:00 A.M.

A-1 Address of Division Chairman, Charles E. Beach, John C. Stalfort & Sons, Baltimore.

A-2 "Pharmaceutical Aerosols", by Martin Barr, Philadelphia College of Pharmacy and Science.

A-3 "Observations on Aerosol Protective Coatings", by Ludwig J. Hecht, Lenmar Lacquers, Inc., Baltimore.

A-4 "Silicones and their Use in Aerosols", by Thomas H. Reilly and Donald V. Brown, General Electric Co., Waterford, N. Y., delivered by T. Reilly.

A-5 "An Improved Method for Pressure Filling Aerosols", by L. P. Hall, Jr., Freon Products Division of E. I. du Pont de Nemours & Co., Wilmington, Del.

A-6 Progress Report Aerosol Publicity Committee, by F. G. Lodes, Lodes Aerosol Consultants, Inc., New York; including showing of TV publicity film "The Magic Button".

Soap, Detergents and Sanitary Chemical Products Division—Esquire Room

W. S. Jessop, presiding

9:00 A.M.

S-4 Address of the Division Chairman, Clarence L. Weirich, C. B. Dolge Co., Westport, Conn.

S-5 Symposium on Analytical Methods for Surfactants, J. C. Harris, Monsanto Chemical Co., Dayton, O., moderator.
A. "Analytical Methods for Alkylbenzene Sulfonates", by E. W. Blank, Colgate-Palmolive Co., Jersey City, N. J.; B. "Analytical Methods for Sulfates", by R. C. Stillman, Procter & Gamble Co., Cincinnati; C. "Analytical Methods for Alkanolamides", by S. M. Livengood, Mellon Institute, Pittsburgh, Pa.; D. "Analytical Methods for Non-Ionic Surfactants", by Sidney Siggia, General Aniline & Film Corp., Easton, Pa.

Wednesday Afternoon, Dec. 11

Automotive Division—Pageant Room North

A. James Coulter, presiding

2:30 P.M.

Au-6 "Specifications for Solvents to Clean Electrical and Transportation Equipment', by Wanda L. Campbell, Chemicals and Materials Corp., Terre Haute, Ind.

Au-7 "Use of Pressure Testers", by Glenn A. Johnson, Stant Manufacturing Co., Connersville, Ind.

Au-8 "Marketing Automotive Specialties", by C. E. Allerdice, Jr., Bell Co., Chicago.

Au-9 "The Value of Wax Protection for the New Automotive Finishes", by K. F. Parr, and D. E. Whyte, S. C. Johnson & Son, Inc., delivered by D. E. Whyte.

Wednesday Evening, Dec. 11

6:00 to 7:30 P.M. Cocktail Party—Mayfair Room

9:00 to 10:30 P.M. Millionaires of Las Vegas Night—Mayfair Room

Thursday Morning, Dec. 12

9:00-10:30 Board of Governors—Esquire Room

General Session—Pageant Room

J. E. Ferris, presiding

10:45 A.M.

Address of the president, by Harry E. Peterson, Peterson Filling and Packaging Co., Danville, Ill.

Report of the secretary, by H. W. Hamilton, C.S.M.A.

Report of the treasurer, by P. C. Reilly, Reilly Tar & Chemical Co., Indianapolis

Report of the C.S.M.A. general counsel, John D. Conner, Cummings, Sellers, Reeves, and Conner; Washington, D. C.

Address, by R. B. Roberts, Florida Power & Light Co., Miami

New business

Thursday Evening, Dec. 12

Farewell Cocktail Party—Pageant Room

Special dinner and entertainment—Mayfair Room

Harry E. Peterson. The session, which followed a meeting of the CSMA board of governors, also was highlighted by the presentation of awards to the winners of the 1957 aerosol package contest. This ceremoney was presided over by Frederick G. Lodes, chairman of the Aerosol Division's Festival Committee. Photographs of all the winning packages appear on pages 155, 198 and 199 of this issue. The best of show award this year, for the first time, resulted in a tie between Rexall's "Stag" shave cream and Helena Rubinstein's "Five O'Clock" perfume mist.

Frank L. Holland, manager of the Florida Agricultural Research Institute, Winter Haven, opened the first morning session with an address of welcome. Following the presentation of the aerosol awards and the report of the nominating committee by Emil G. Klarmann, chairman, and the election of officers and board members, the meeting heard an address by Philip W. Moore, president of the First Florida Corp.

This year's meeting, the first at a resort hotel in nearly 10 years, and of four days' duration, represents quite a departure from recent annual conventions. Most all meeting sessions are scheduled for the mornings, with afternoons open for committee meetings or sports activities. Because of the unusually large number of women attending this meeting a number of special events are listed on a program for the women.

Since complete, last-minute program details appear on pages 92 and 93 of this issue, a general outline only of the program is covered in this space. Tuesday morning, Dec. 10, there are four divisional sessions and a meeting of the aerosol scientific committee. Divisions holding sessions Tuesday morning include: Automotive, Disinfectant and Sanitizers, Insecticide and Waxes and Floor Finishes. That afternoon the Soap, Detergents and Sanitary Chemical Products Division meets from 2:30 to 5:00.

Two divisional meetings, those of the Aerosol and Soap, Detergent and Sanitary Chemical Products Divisions are scheduled to be held Wednesday morning, Dec. 11. Wednesday afternoon the Automotive Division holds its second session.

A general session, featuring an address by Harry E. Peterson, CSMA president and reports of the secretary, treasurer and general counsel, is scheduled to be held Thursday morning, Dec. 12.

The banquet, cocktail party and floor show will be held Thursday evening. Other social events on the program include a get acquainted gathering Sunday evening, Dec. 8; a Hawaiian evening, Dec. 9, staged at the pool; a suppliers' party, Dec. 10, in the Mayfair Room replacing the usual suite operated "open house" parties, a "Millionaires or Las Vegas Night", Dec. 11.

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Internat'l Aerosol Group

An International Aerosol Association was organized in September with headquarters at Waisenhausstrasse 2, Zurich, Switzerland. Formed to aid the "development and promotion" of pressure packaging on an international basis, the group has appointed an association manager, A. W. Naegeli. Plans call for the formation of sections in various countries and for an international meeting in March 1958.

The association held its first meeting on Sept. 25 in Zurich and elected for its president, Gerald M. Mayer of Precision Valve Int. S.A., foreign representative of Precision Valve Corp., Yonkers, N. Y. Other officers elected include: Egon Honisch, Aeratom A.G., Rapperswil, Switzerland, vice-president and secretary; Emil Hirschburger, Aerosol Service, Inc., Riehen, Switzerland, treasurer.

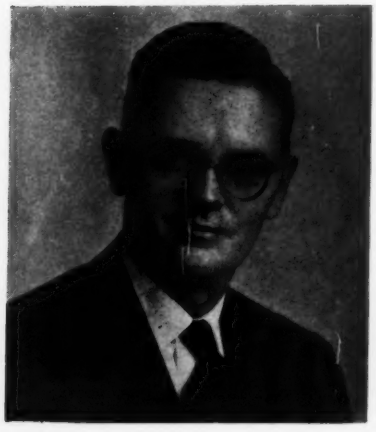
The possibilty of forming national organizations is also understood to be under discussion.

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Shulton Names Averill

Appointment of Donald L. Averill as assistant manager of the Chicago sales office of Shulton, Inc., Clifton, N. J., was announced recently. He had been a member of the company's sales organization since 1954.

Harry E. Peterson
President



Alfred A. Mulliken
Assistant Secreta.y



Peter C. Reilly
Treasurer





H. W. Hamilton
Secretary



Donald M. King
1st Vice-president



Charles E. Beach
Board of Governors



George W. Fiero
2nd Vice-president



Cyril S. Kimball
Chairman, Wax Div.



W. Earl Graham
Chairman, Aerosol Div.

Irving Gaines
Chairman, Disinfectant Div.



C. L. Weirich
Cahirman, Soap Div.



John A. Rodda
Chairman, Insecticide Div.



A method for determining

Discharge Rates from Aerosols

EXPERIMENTS and subsequent discussion between K. Dixon and R. M. Mumford of Cooper, McDougall & Robertson, Ltd., Berkhamsted, Herts, England, and R. A. Gunn-Smith, research department, A. Herzka and A. Simpson* of The Metal Box Co., London, revealed the need for a standard method to determine discharge rates from pressurized packs. As no such method has yet been published in Great Britain the one now employed in the respective laboratories is published herewith in the hope that it will find general acceptance.

The method is not successful with shaving cream and an investigation is in progress at the moment in the hope of establishing the cause of this.

Method

1. *Filling to be employed:*
   (a) The dispensers shall be filled to the extent of 81.5 ± 1.5 per cent by volume at 70°F.
   (b) Where the valves are to be employed for a specific product this should be used as the filling. Where the investigation is of a general nature the filling should be appropriate to the type of valve.
   e.g. (i) Valves for insecticidal pressure packs may be tested with a filling consisting of:

	Per cent by weight
Odorless kerosene (boiling range 374-529°F.)	15.0
Dichlorodifluoromethane .	42.5
Trichloromonofluoromethane	42.5

   (ii) Valves for glass bottles may be tested with:

	Per cent by weight
Industrial methylated spirits (74 o.p.)	50.0
Dichlorotetrafluoroethane .	40.0
Dichlorodifluoromethane .	10.0

2. *Dispenser sizes:*
   Metal dispensers having a nominal capacity of six ounces and glass dispensers having a nominal capacity of two ounces shall be used. Departures from this practice shall be recorded.
3. *Method of filling:*
   The cold filling method shall be used wherever possible and the method of filling employed shall be stated in the results. As much air as possible should be removed from the dispensers.
4. *Selection of samples:*
   (a) The dispensers shall not show sustained leaks when immersed for at least five minutes in a water bath at 130°F., nor when immersed in a water bath at 70 ± 2°F. for at least five minutes after spraying.
   (b) On operating the valves, material shall be ejected only through the spray orifices.
   (c) Packs having valves from which the sprays impinge on any part of the dispensers shall not be included in the tests.
   (d) Packs having valves which are partially blocked shall not be included in the tests.
5. *Conditioning of dispensers:*
   (a) The dispensers are to be immersed initially in a water bath maintained at 70 ± 2°F. for a minimum of one half hour, or sufficiently long for the contents to reach the temperature of the water bath.
   (b) The dispensers are to be operated for one burst of approximately five seconds in order to remove any material from the valves and dip tubes which is not homogeneous with the bulk of the filling.
   (c) On removal from the water bath prior to each discharge rate determination, the dispensers are to be operated for one burst of approximately one second in order to remove any water from the spray orifices.
   (d) The dispensers are to be immersed in a water bath maintained at 70 ± 2°F. for five minutes between each discharge rate determination.
   (e) Each dispenser shall be shaken before each determination, unless specified to the contrary.
6. *Weighing:*
   The dispensers are to be weighed correct to 0.1 g. before and after each 10 seconds spray period. They are to be wiped clean of any water or other deposit before weighing.
7. *Spraying:*
   The valves are to be held fully open for 10 ± 1/5 seconds in the manner in which they would normally be used.

* Now with Safco Aerosol Manufacturing Ltd.

8. *Number of discharge rate determinations:*
Three periods of spraying as described in (7) above are to be carried out with each dispenser, unless the range of the results is more than 0.1 g/sec., in which case a fourth and a fifth determination shall be made. The conditioning of the dispensers spraying shall be in accordance with 5 (c), (d) and (e) above.

9. *Pressure determinations:*
The gauge pressure within each dispenser shall be determined immediately after completion of the weighing following the final spray rate determination.

10. *Calculation of results:*
(a) The average discharge rate for each dispenser is to be calculated.
(b) The arithmetic mean, the standard deviation and the standard error of the mean of these averages are to be calculated.

Discussion

IN arriving at the above method we were at all times striving to follow the actual usage of the dispenser as far as possible.

1. (a) This is typical of the maximum safe fill.

1. (b) (i) The physical behavior of this filling is similar to that of a common insecticidal formulation.

1. (b) (ii) This likewise represents the physical behavior of a common toilet water pack.

2. In order to conserve material small dispensers are specified. These sizes will normally be adequate for carrying out the determinations. The occasion may arise, however, when dispensers of different sizes are called for, e.g. with some particular valves.

3. Low temperature filling appears to be the most convenient way of filling dispensers in the laboratory, except in special cases such as with shave creams. At the same time, the removal of air can best be effected when employing low temperature filling. The contribution to the internal pressure made by the air trapped within the dispensers, diminishes as the dispensers are progressively emptied. This may affect the discharge rates.

4. (a) All commercially filled dispensers are tested for leakage by immersion in water at 130°F. and leakers detected then or at the subsequent spray testing are rejected. As the above method is concerned with the discharge through the spray orifice for fixed periods all results would be invalidated were the dispensers or the valves to leak at ordinary temperature.

4. (c) Occasionally, a small proportion of the spray is deflected on to some part of the dispenser, and while there may be no serious objection to this during normal usage, any sprayed material retained on the dispensers would obviously affect the apparent weight losses.

5. (a) The temperature of 70 ± 2°F. is close to normal room temperature in this country. Under extreme conditions more than one-half hour's conditioning may be necessary for the contents to reach the specified temperature.

5. (b) Very often the mixing of the components of the formulations does not occur during the filling operations and when the dip tube is introduced it may possibly be filled with material which is not homogeneous with the bulk of the filling.

5. (c) While it is unnecessary in the majority of pressurized packs to shake before use, this procedure has been adopted as an additional precaution to make certain of the uniform temperature of the contents.

8. Experience has indicated that where individual results are not too divergent, the mean value of the first three discharge rates is not significantly different from the mean of a greater number of discharge rates. Where erratic results occur it is desirable that a greater number of determinations be carried out. The following table of results illustrates this point:

The following fill was used

(*Turn to Page* 98)

Discharge Rates in g/sec.

Discharge Rate No.:	1	2	3	4	5	6	7	8	Mean
Can No. 1	1.11	1.06	1.00	0.98	1.06	1.01	1.02	0.97	1.03
Can No. 2	1.07	1.02	1.01	1.00	1.00	0.98	0.99	0.94	1.00
Can No. 3	1.06	1.06	1.01	1.06	1.00	0.98	0.96	0.95	1.01
Can No. 4	1.04	0.99	0.82	0.98	0.98	0.91	0.89	0.94	0.94
Can No. 5	1.01	0.95	0.94	0.97	0.94	0.93	0.91	0.90	0.94
Can No. 6	1.01	1.00	0.92	0.95	0.93	0.93	0.92	0.90	0.95
Can No. 7	1.01	1.02	1.00	1.01	1.00	0.96	0.94	0.94	0.99
Can No. 8	1.05	1.02	1.04	1.04	1.01	0.98	0.96	0.97	1.01
Can No. 9	1.06	1.02	1.01	1.04	1.01	0.96	0.96	0.95	1.00
Can No. 10	1.05	1.00	0.99	1.02	0.99	0.95	0.96	0.91	0.98
Can No. 11	1.04	0.96	0.97	0.98	1.00	0.94	0.94	0.94	0.97
Can No. 12	1.04	0.99	1.00	0.99	0.98	0.97	0.96	0.96	0.99
Can No. 13	0.95	0.64	0.96	0.81	0.88	0.71	0.85	0.87	0.83
Can No. 14	1.03	0.95	0.94	0.94	0.88	0.90	0.96	0.93	0.93
Can No. 15	0.97	0.99	0.96	0.86	0.80	0.85	0.79	0.79	0.88
Can No. 16	1.03	1.03	0.98	0.93	0.95	0.90	0.81	0.98	0.95
Can No. 17	0.94	0.87	0.91	0.88	0.90	0.82	0.82	0.88	0.88
Can No. 18	0.94	0.92	0.81	0.89	0.94	0.92	0.69	0.87	0.87
Can No. 19	0.94	0.97	0.94	0.95	0.93	0.95	0.95	..	0.95
Can No. 20	1.04	1.03	0.98	0.96	0.88	0.96	0.92	0.88	0.96
Can No. 21	1.01	0.93	0.99	0.99	0.83	0.99	0.96	..	0.96
Can No. 22	0.98	0.89	0.95	0.89	0.95	0.94	0.96	..	0.94
Can No. 23	0.99	0.87	0.92	0.87	0.98	0.98	0.96	..	0.94
Can No. 24	1.01	0.94	0.93	0.94	0.94	0.98	0.98	..	0.96
Can No. 25	1.00	0.49	1.02	0.87	0.98	0.76	0.88	..	0.86
Can No. 26	0.97	0.58	0.87	0.94	1.04	1.01	1.05	..	0.92
Can No. 27	0.93	0.64	0.94	0.92	0.93	0.97	0.88	..	0.89
Can No. 28	0.97	0.91	0.94	0.95	0.91	0.76	0.91	..	0.91
Can No. 29	0.92	0.86	0.88	0.99	0.98	0.99	0.72	..	0.91
Can No. 30	1.01	1.02	0.91	0.91	0.69	0.77	0.69	..	0.86
Mean	1.01	0.92	0.95	0.95	0.94	0.92	0.91	0.92	

Brass-stemmed Precision valves were used for these determinations.

for these determinations:

	Per cent by weight
Insecticide	15.0
Arcton 6	42.5
Arcton 9	42.5

9. This pressure determination is a check that nothing untoward has occurred during the filling. It is, however, delayed until after the final spray rate determination because the partial dismantling of the valves, with subsequent risk of damage, is often necessary.

Cross Check

TWENTY, 12-ounce dispensers, commercially filled with a standard space insecticide formulation, were taken and the discharge rates determined by the method given above, at each of the two laboratories. The results are given in the following tables in the order in which they were obtained, i.e. in Table A the first determinations were carried out by Cooper, McDougall & Robertson and in Table B by The Metal Box Co. Ltd.

While the calculations called for under No. 10 (b) of the method are not given, the figures show that reproducible results are obtainable.

Acknowledgments

THANKS for permission to publish are recorded as follows:

By K. Dixon and R. M. Mumford to Cooper, McDougall & Robertson Ltd.

By R. A. Gunn-Smith, A. Merzka and A. Simpson to R. K. Sanders, head of research department of The Metal Box Co. Ltd., to J. H. Brittain, and to T. E. Bashford.

—★—

"Lysol" Versus Asian Flu

"Lysol" cleaning solutions of recommended concentration are capable of permanently inactivating Asian influenza virus, reports Lehn & Fink Products Corp., New York. This finding resulted from research conducted by Dr. Morton Klein, a virologist at Temple University Medical School, Philadelphia. Five minutes' contact of disinfectant solution and virus at room temperature is necessary to inactivate the microorganism.

Based on these findings, "Lysol" is suggested for use on surfaces where virus particles expelled by infected persons may have settled, constituting a risk to persons who may inhale them when they are redispersed into the air.

Secondary bacterial infections are a threat to individuals weakened by an attack of influenza. By controlling bacteria such as streptococci and pneumocci, disinfection can do a great deal to minimize this danger, according to Dr. Emil G. Klarmann, Lehn & Fink's vice-president in charge of technical services.

Newspaper and magazine advertising, TV, radio, and point of purchase promotion on behalf of "Lysol" disinfection in the home are being coordinated by O. G. Kennedy, general sales manager of the L & F sales division. Hospital and institutional disinfection during a flu epidemic was the topic of a Lehn & Fink sponsored panel discussion held in Atlantic City in conjunction with the recent national convention of the American Medical Association.

—★—

New Odor-Control Chemicals

Development of two new "Alamask" odor-control chemicals designed for diminishing malodors produced by sulfides and phenolic compounds was announced last month by Rhodia, Inc., New York. The two new products are available in both oil and water dispersible forms.

—★—

New Harco Solvent

A new cleaning solvent for wipe or dip cleaning of greasy or oily machine parts and electrical equipment was announced recently by Harco Chemical Co., Cranford, N. J. Tradenamed "Harco Safety Cleaner," the new product is said to have a low toxicity, dry rapidly and leave no residual film. A technical bulletin containing complete specifications of the product may be obtained from the company.

A	Discharge Rates in g/sec. C.M.R.					M.B.			Average Discharge Rates in g/sec. C.M.R.	M.B.
Discharge Rate No.:	1	2	3	4	5	6	7	8		
Can No. 1	1.37	1.34	1.31	..	..	1.32	1.37	1.35	1.34	1.35
Can No. 2	1.38	1.34	1.30	..	..	1.34	1.34	1.26	1.34	1.32
Can No. 3	1.32	1.29	1.29	..	..	1.30	1.25	1.21	1.30	1.25
Can No. 4	1.39	1.33	1.33	..	..	1.36	1.35	1.29	1.35	1.32
Can No. 5	1.35	1.34	1.30	..	..	1.31	1.29	1.22	1.33	1.27
Can No. 6	1.16	1.15	1.14	..	..	1.20	1.19	1.21	1.15	1.20
Can No. 7	1.17	1.17	1.17	..	..	1.33	1.26	1.25	1.17	1.28
Can No. 8	1.36	1.34	1.33	..	..	1.37	1.35	1.34	1.34	1.35
Can No. 9	1.40	1.32	1.35	..	..	1.38	1.34	1.34	1.36	1.35
Can No. 10	1.44	1.33	1.30	1.32	1.32	1.38	1.34	1.33	1.34	1.35
Can No. 11	1.33	1.30	1.30	..	..	1.34	1.29	1.24	1.31	1.28
Can No. 12	1.34	1.31	1.35	..	..	1.32	1.28	1.24	1.33	1.28

B	Discharge Rates in g/sec. M.B.				C.M.R.		Average Discharge Rates in g/sec. M.B.	C.M.R.
Discharge Rate No.:	1	2	3	4	5	6		
Can No. 13	1.40	1.39	1.35	1.33	1.32	1.35	1.38	1.33
Can No. 14	1.30	1.33	1.29	1.24	1.24	1.26	1.33	1.25
Can No. 15	1.40	1.31	1.37	1.33	1.28	1.35	1.36	1.32
Can No. 16	1.41	1.48	1.41	1.40	1.42	1.38	1.43	1.40
Can No. 17	1.44	1.49	1.44	1.38	1.38	1.42	1.46	1.37
Can No. 18	1.35	1.35	1.30	1.28	1.26	1.30	1.33	1.28
Can No. 19	1.26	1.30	1.22	1.23	1.22	1.20	1.26	1.22
Can No. 20	1.28	1.28	1.24	1.22	1.24	1.20	1.26	1.22

Explanation of abbreviations used:
M.B.—Determinations in The Metal Box Co. Laboratory. C.M.R. — Determinations in Cooper, McDougall & Robertson Laboratory.

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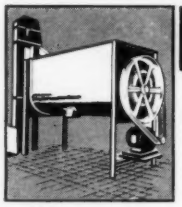
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Typical fall scene during first cold spell in service station full of cars waiting to have radiators drained, flushed and filled with antifreeze.
National Carbon Co. photograph

Antifreeze Market Outlook

By E. R. Boedeker*
Dow Chemical Co.
Midland, Mich.

FOR the past two years my company has conducted extensive research into the antifreeze market. This report on the survey's results will be presented in four parts: reasons that prompted the project; methods used in obtaining the necessary data; an analysis of the current antifreeze picture; and finally, future projections for the market.

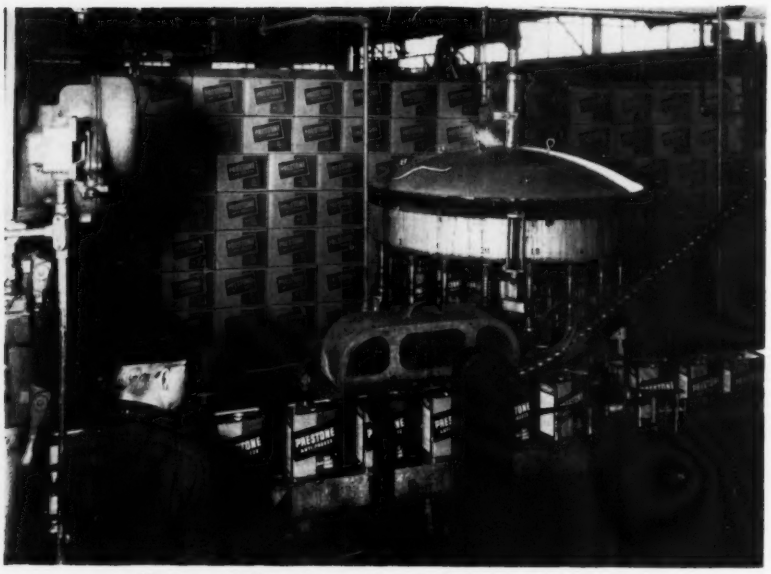
Several years ago, the market research department was asked to come up with some projections of the future for the antifreeze market, and more specifically, to answer the question—what was the outlook for ethylene glycol for antifreeze use? As is the case in most market studies, we started by trying to assemble the data that we had accumulated on this product. In attempting to analyze this information, we found it insufficient to serve as an outline for a clear-cut picture of the antifreeze market. Furthermore, it appeared that there was a valid reason for this lack of knowledge—that reason being that within a relatively short number of years there had been a marked shift in the antifreeze sales pattern, with glycol-based antifreeze accounting for a rapidly increasing share of the market. Estimates of the portion of the market accounted for by ethylene glycol ranged from 40 per cent to 60 per cent. Needless to say, our preliminary report on this subject contained little in the way of concrete information; rather, the general tenor of the report was to point out those areas where there was a lack of information and to propose an approach to obtaining the data we needed to define the antifreeze market more clearly.

Somewhat prior to our preliminary report on the antifreeze market, one of the other groups in the market research department had conducted research into consumer preferences for antifreeze. From our standpoint the following of their findings were of importance: First it was found that most people bought their antifreeze at service stations. Secondly, it was found that the breakdown by type, e.g., glycol-based or methanol-based, was practically the same whether the point of sale was the service station, a garage, or an auto accessories store; and to a limited extent, even getting it "through a friend" seemed to follow the same sales pattern.

These results suggested that the maximum of information with

Merchandising efforts and education of the public not to reuse antifreeze are seen as two major factors in future market growth.

* Presented at the 44th annual meeting of the Chemical Specialties Manufacturers Association, Hollywood, Fla., Dec. 10, 1957.



High speed filling equipment in antifreeze plant is a must.
National Carbon Co. photograph

the minimum amount of field work might be obtained by contacting the petroleum companies and discussing with them the pattern of their antifreeze sales. This, then, was decided upon as our approach to the study of the antifreeze market.

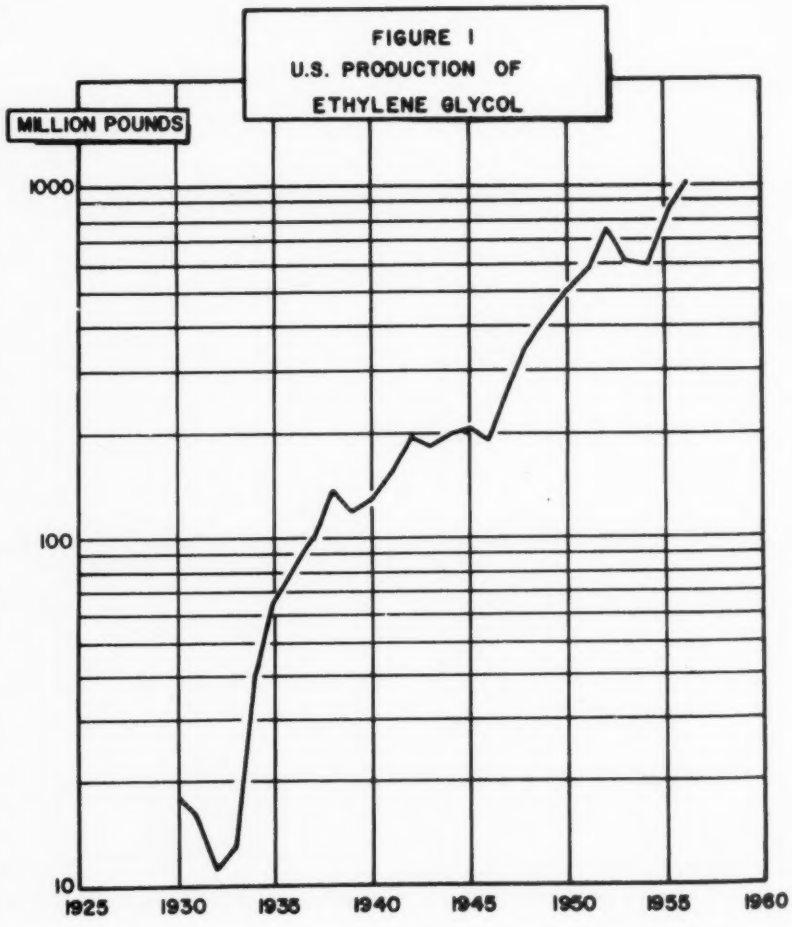
It was recognized early in the study that there were some inherent disadvantages to this type of approach, and that certain simplifying assumptions would have to be made. Among these, the following might be mentioned:

1. It was uncertain whether the antifreeze sales of the petroleum companies to the service station owner truly reflect the actual consumer purchases of antifreeze insofar as percentage of glycol was concerned. The companies contacted (about 23 in number) were of the opinion that their sales of antifreeze to service station dealers closely approximated consumer purchases of antifreeze. Therefore, company sales have been assumed to represent dealer sales.

2. In arriving at a figure for the sales pattern of antifreeze in each state, we have averaged arithmetically the antifreeze sales pattern of each petroleum company contacted whose marketing area includes the particular state under consideration. For greater precision, each company's figure should be corrected by a weighting factor which would reflect the company's marketing position in the state, for example, as represented by gasoline sales. The error resulting from failure to include this correction is probably quite small and hence can be neglected.

3. The antifreeze sales pattern of any individual petroleum company represents an average for their entire marketing area (except for those few who indicate their pattern by sales districts). Thus, geographical differences in the consumption pattern may not be reflected. This means that data for an individual state may be in error; however, for the country as a whole, the errors for individual states should be compensating, so that the estimated national market should be fairly represented.

4. The extent to which glycol is reused is not known with any great certainty, except for the cities where consumer surveys were made.





Checking amount of antifreeze in cooling system by means of gauge on ground in front of center car.

National Carbon Co. photograph

Apparently, consumer education against reuse of antifreeze is beginning to bear fruit, with the result that reuse appears to be declining. For the 1956-57 study, it was assumed that 40 per cent of glycol purchasers used their glycol for two years; reuse for periods longer than two years was considered so small as to introduce no appreciable error.

5. Reuse is considered to occur to an equal extent in all sections of the country. No data is available for supporting or disproving this premise.

6. It has been assumed that inventory build-up of antifreeze did not exist. The petroleum companies contacted were of the opinion that inventory build-up was not in progress and that actual sales were truly represented by their sales to the service station.

In spite of these disadvantages, this still appeared the simplest approach to the antifreeze market survey. The first study was concerned with the 1955 market, but the present paper is limited to the more recent survey, covering the 1956-57 antifreeze season.

Before we actually discuss the antifreeze market as it is today, let's take a look at national production of ethylene glycol (Figure 1). The rise in glycol production has been quite rapid, but showed a slowdown during the war years. Immediately following the war, the growth pattern was resumed through 1952. When one considers that the major use for ethylene glycol is as antifreeze, it is possible to appreciate the extent to which the antifreeze market shifted during this period of time. In 1952, there was a build-up of antifreeze inventory, with the result that in 1953 and 1954 United States production of ethylene glycol decreased. By 1955, the inventories had been worked off with the result that in both 1955 and 1956 production increased once more.

Current Market

FOR the 1956-57 winter season the total *potential* antifreeze market was estimated at 121,800,000 gallons of antifreeze. I should like to emphasize the word *potential*, since this figure of 121,800,000 gallons is based on the assumption that every vehicle in the United States is protected with antifreeze to a degree dictated by the average minimum temperature which prevails in the area where the vehicle is used. The next figure (Figure 2) shows how this potential market is distributed throughout the United States. Figure 3 shows how this market is distributed by geographical areas. Of this 121,800,000 gallon market, passenger cars are estimated to constitute 73.2 per cent; trucks and buses, 17.0 per cent; and tractors and off the road equipment, 9.8 per cent.

The actual antifreeze market is, of course, somewhat different from the ideal situation (as represented by the potential market). Again, let's back-track a little before we discuss the size of the actual antifreeze market. In our contacts with the oil companies we discussed antifreeze sales, not in terms of actual gallons of antifreeze sold but rather in terms of the sales split



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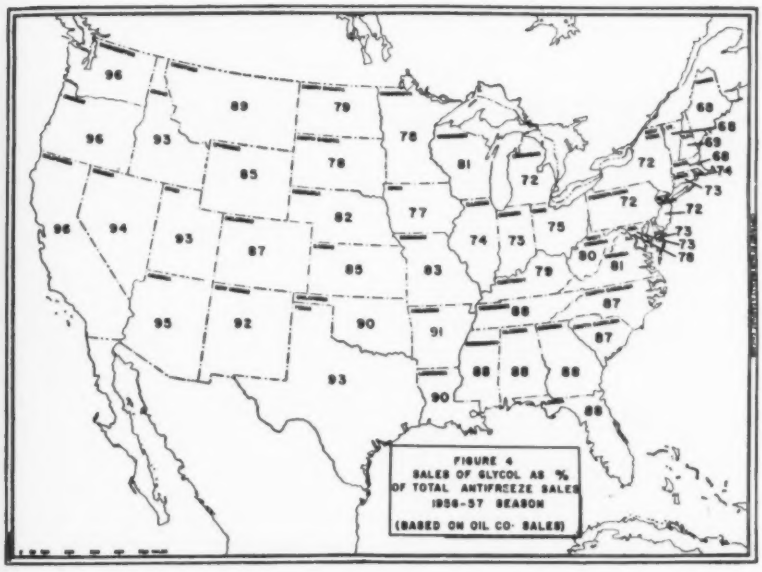
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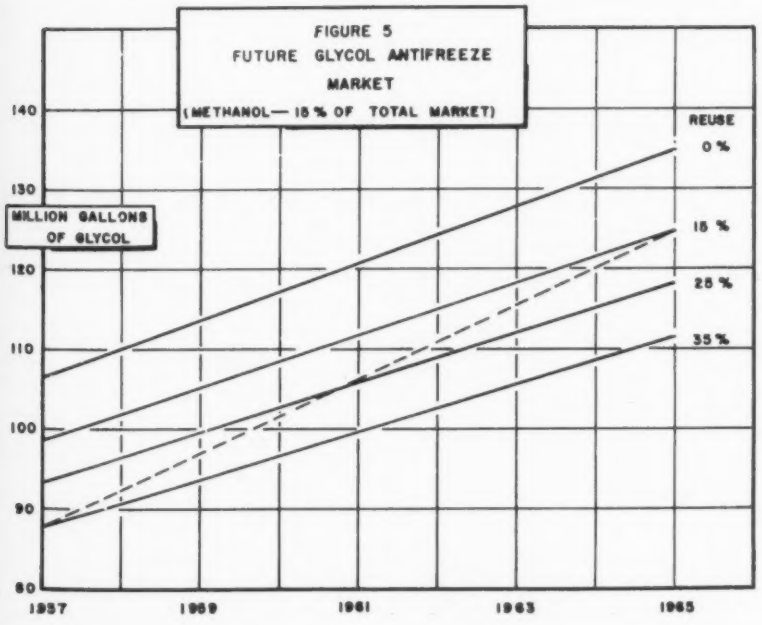
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Figure 3. Distribution of Potential Antifreeze Market By Geographical Area

Division*	Total Potential Market Thousands of Gallons	% Change from 1955	% of Total
East North Central	32,630	+4.8	26.8
Middle Atlantic	21,564	+3.5	17.7
West North Central	19,354	+2.6	15.8
South Atlantic	10,818	+4.7	8.9
West South Central	10,220	+2.6	8.4
New England	7,369	+3.8	6.0
East South Central	7,072	+4.4	5.8
Pacific	6,783	+4.8	5.6
Mountain	6,048	+2.6	5.0
* Total	121,858	+3.8	100.0

* East North Central—Ohio, Ind., Ill., Mich., Wisc.; Middle Atlantic—N. Y., N. J., Penn.; West North Central—Minn., Iowa, Mo., N. D., S. D., Neb., Kan.; South Atlantic—Del., Md., D. C., Va., W. Va., N. C., S. C., Ga., Fla.; West South Central—Ark., La., Okla., Tex.; New England—Me., N. H., Vt., Mass., R. I., Conn.; East South Central—Ky., Tenn., Ala., Miss.; Pacific—Wash., Ore., Calif.; Mountain—Mont., Idaho, Wyo., Colo., N. Mex., Ariz., Utah, Nev.





between glycol-based antifreeze and methanol-based antifreeze. The next figure (Figure 4) shows sales of glycol-based antifreeze as per cent of total antifreeze sold in each state; these figures were obtained by averaging the results obtained from the various petroleum companies participating in the survey. A rather distinct pattern emerges with glycol-based antifreeze accounting for an increasing portion of antifreeze sales as one proceeds from the New England states both southward and westward.

To estimate antifreeze sales, it is also necessary to know the extent to which glycol-based antifreeze is reused. For this purpose, a reuse figure of 40 per cent was employed; this figure was obtained from consumer surveys carried out in selected cities. Here we define reuse as follows—the percentage of cars containing glycol-based antifreeze which will use the antifreeze for more than one season. Incidentally, the reuse figure for 1955 was 44 per cent pointing to decrease in the reuse of glycol-based antifreeze.

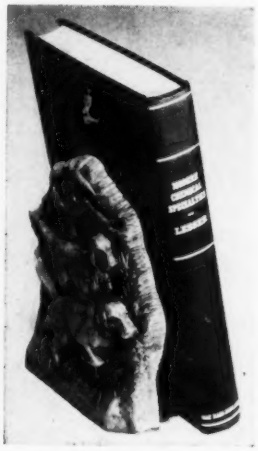
Employing these figures, together with vehicle registrations, we estimated the total sales of antifreeze for the 1956-57 winter season at 102,800,000 gallons, distributed as 81,600,000 gallons of glycol-based antifreeze and 21,200,000 gallons of methanol-based antifreeze. The figures for this same period as compiled by CSMA (based on producers' reports) were 82,000,000 gallons of glycol-based antifreeze and 23,100,000 gallons of methanol-based antifreeze, for total antifreeze sales of 105,100,000 gallons.

The difference, then, between the "potential" antifreeze market of almost 122,000,000 gallons against sales in 1956 of 103,000,000 to 105,000,000 gallons is accounted for in large part by the reuse of glycol-based antifreeze. Thus, the reuse of glycol-based antifreeze constitutes an important potential for increased sales of antifreeze.

In attempting to project future antifreeze markets we have based our estimates primarily on a

(*Turn to Page* 279)

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Household Aerosol Insecticides...

How do they fare against house flies resistant to chlorinated pesticides?

By Herman O. Schroeder and Howard A. Jones

Fairfield Chemical Division
Food Machinery and Chemical Corp.
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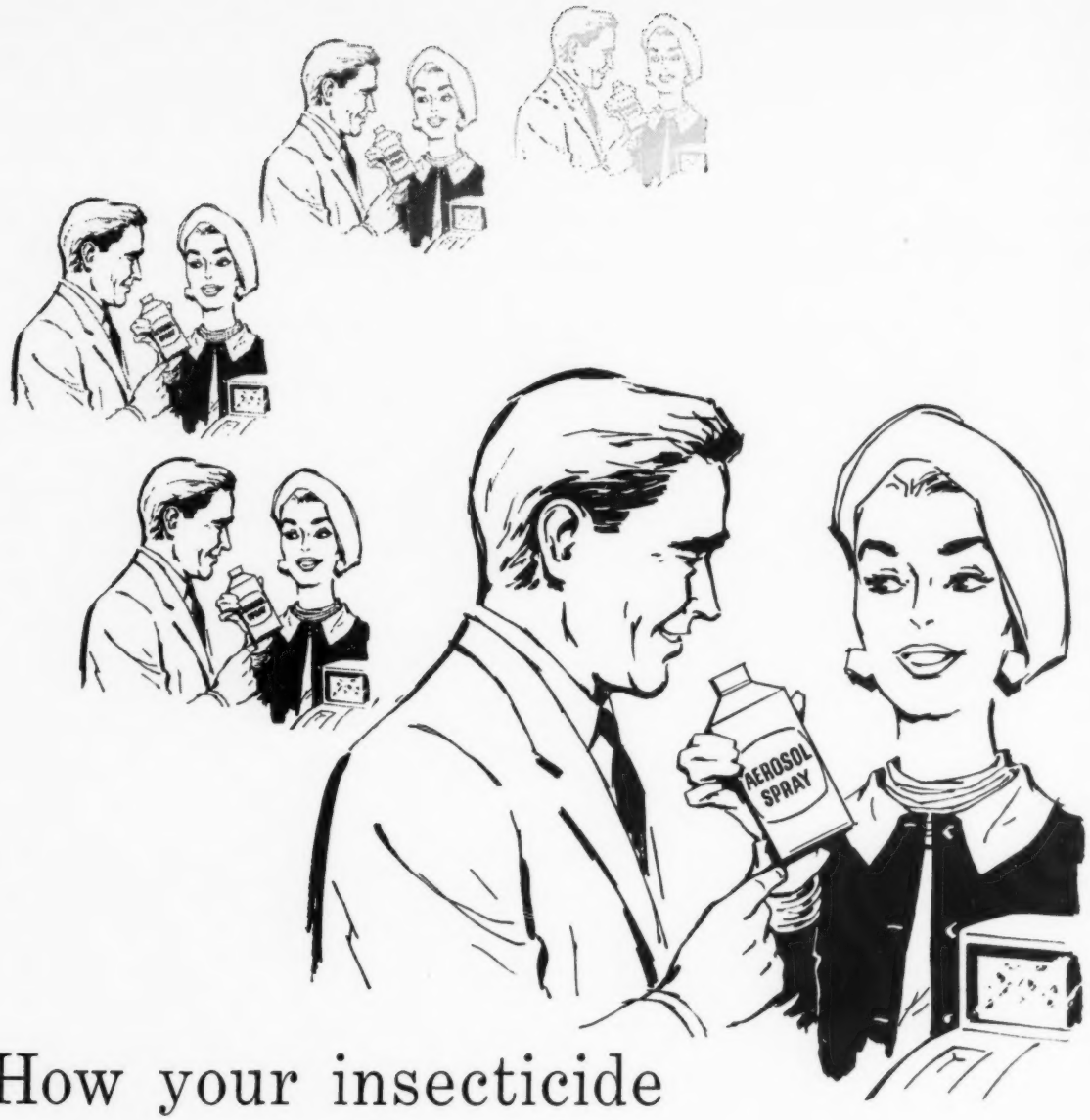
A GREAT deal of information has been published on the development of resistance of insects to insecticides, particularly the resistance of house flies to chlorinated insecticides. The problem of insect resistance has been reviewed by Babers (1949), Babers and Pratt (1951), Metcalf (1955), Hoffman (1956) and others. This insect resistance has become so commonplace that control measures cannot be undertaken without taking this phenomenon into account.

Bruce (1950) has shown the remarkable degree of resistance or tolerance which house flies may develop to many insecticides, particularly to the chlorinated materials, but has also shown that resistance builds up at a relatively slow rate and to a much lesser degree for pyrethrum sprays. Decker and Bruce (1951) have shown that the development of resistance of house flies has apparently become universal in the State of Illinois and that the degree of resistance in many instances is very great. Of 94 collections made throughout Illinois, 27 per cent showed 30 to 60 fold resistance and 87 per cent showed fourfold or more resistance. In a personal communication in 1956 Dr. Bruce stated that he had not been able to find flies in Illinois which were not resistant to one or more insecticides. Hansens (1953) in New Jersey points to a similar situation in that state. California has long been plagued by house flies having a high degree of resistance to various insecticides. This evidence leads one to conclude that the development of resistance has become a problem in all sections of the country. An attempt has been made in recent years to meet this situation by employing new insecticides, alternate use of several insecticides, special residual techniques, use of phosphate baits, renewed emphasis on sanitation and increased reliance on the use of space treatments. In general these techniques have been applied principally at farm, dairy and commercial levels and not in the household where space treatments in the form of aerosols and oil sprays have continued to be the principal methods of control.

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Picking up house flies with an aspirator at the end of the fifteen minute exposure period in a typical aerosol test.





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sols are required to meet certain minimum standards of performance by Federal agencies. This is done by comparing finished formulations with accepted standards by the use of standard test methods. The laboratory strains of houseflies used in upholding these standards have been carefully protected through the years to reduce the possibility of developing resistance to insecticides in the test insects. Thus the performance of household sprays and aerosols is being determined on the basis of susceptible flies, whereas the public will expect these products to control strains which have almost certainly developed a marked degree of resistance.

In view of these conditions it was important to know how typical insecticidal aerosol formulas would perform against a resistant strain of house flies.



Typical scene in an entomological laboratory showing mass production of house flies for aerosol and Peet-Grady testing.

Methods

TESTS reported herein were made by the entomological laboratories of the Wisconsin Alumni Research Foundation. The Fowler strain of resistant house flies was used as the test insect. This strain occurs naturally on an experimental farm at Quincy, Ill. Resistance had built up in this strain as a result of standard control practices over a period of years and was not the result of selective breeding in the laboratory.

Tests were made by the Official CSMA Aerosol Method for flying insects. Exposures were made

Table 1. Aerosol tests against resistant house flies and against a normal non-resistant laboratory strain. One large group test.

Aerosol	Dose/ 1000 cu. ft. grams	Fly Strain	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
		Series I					
A-784 0.120% Allethrin 0.166% Piperonyl Butoxide 3.000% Methoxychlor	3	Non-resistant	12	29	43	42	74
A-784	3	Fowler	11	22	28	5	6
A-785 0.1% Allethrin 0.5% MGK-264 1.0% Lethane-384 2.0% DDT	3	Non-resistant	15	33	48	47	51
A-785	3	Fowler	12	26	28	6	6
OTA 0.4% Pyrethrins 2.0% DDT	3	Non-resistant	28	46	53	53	73
		Series II					
A-784 0.12% Allethrin 0.166% Piperonyl Butoxide 3.000% Methoxychlor	6.1	Fowler	17	38	55	26	26
A-784	12.1	Fowler	47	73	84	71	71
A-799 0.25% Pyrethrins 2.00% Piperonyl Butoxide	2.9	Fowler	36	68	90	85	86
A-799	5.8	Fowler	66	86	96	96	96
OTA 0.4% Pyrethrins 2.0% DDT	3.1	Fowler	17	34	39	6	8
OTA Average performance of OTA (Not run concurrently)	3.0	Non-resistant	26	45	52	52	74



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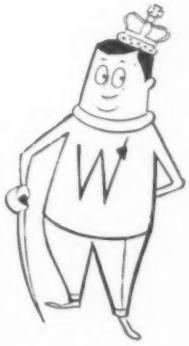
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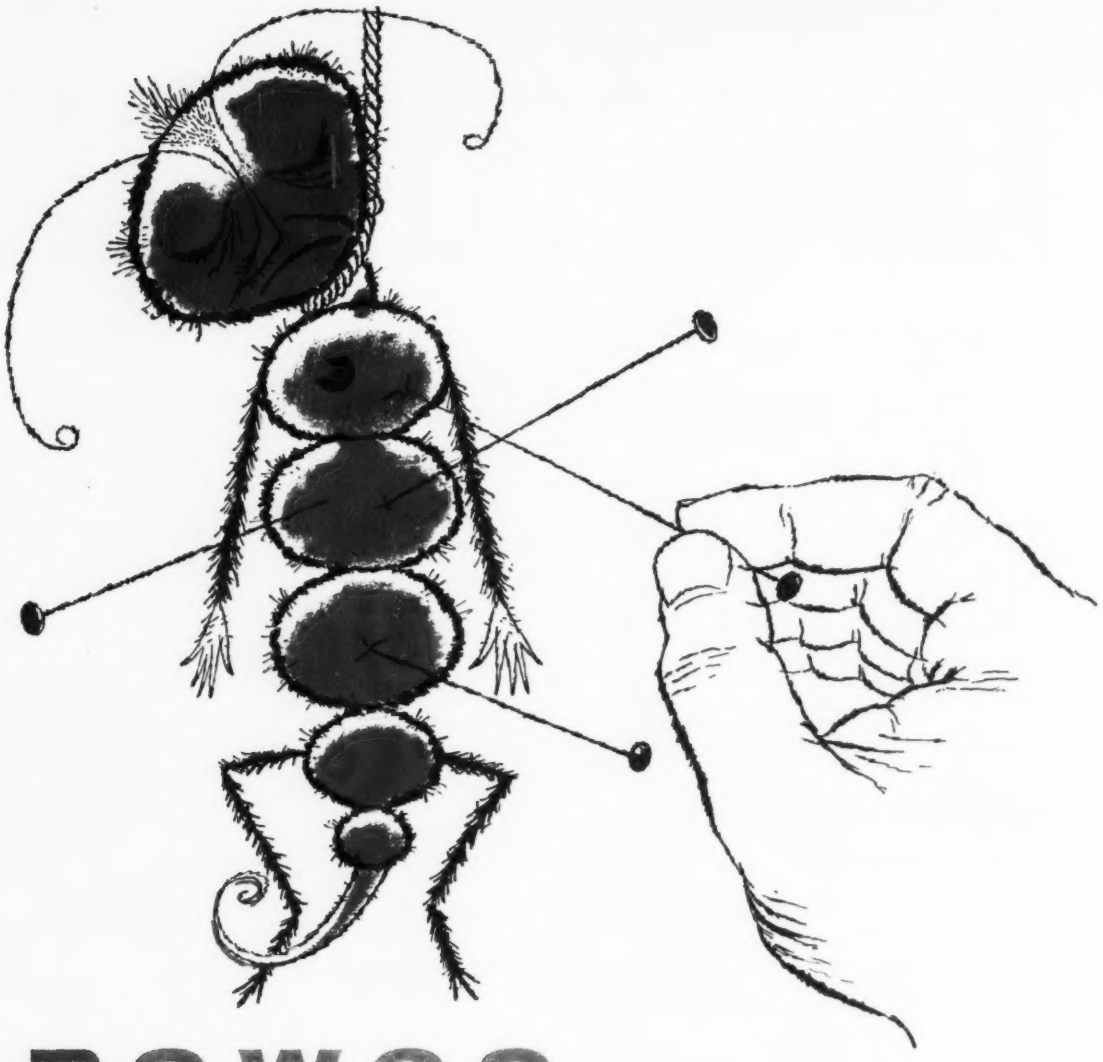
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Table 2. Aerosol tests against resistant house flies. Average of five large group tests.

Aerosol	Dose/ 1000 cu. ft. grams	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
A-782 0.12% Allethrin 0.50% MGK-264 3.00% Methoxychlor	8.79	24	42	63	36	38
A-783 0.12% Allethrin 0.25% Piperonyl Butoxide 3.00% Methoxychlor	8.38	25	47	68	45	47
A-785 0.1% Allethrin 0.5% MGK-264 1.0% Lethane 384 2.0% DDT	9.03	26	45	66	21	25
A-786 0.1% Allethrin 0.25% Piperonyl Butoxide 1.00% Lethane 384 2.00% DDT	8.10	26	53	77	37	38
A-799 0.25% Pyrethrins 2.00% Piperonyl Butoxide	3.10	28	57	84	77	79
OTA (Fowler Strain) 0.4% Pyrethrins 2.0% DDT	3.28	14	28	43	6	7
OTA (Non-resistant Flies)	3.06	19	32	46	46	72

in Peet-Grady test chambers using about 500 flies per test. The Official Test Aerosol (OTA) was tested against both the Fowler strain and the regular non-resistant laboratory strain of flies in each test series. All formulas except the OTA were tested as coded samples. Two mortality figures are shown in the tables. The Aerosol Test Knockdown Mortality represents the number of flies killed of those knocked down at the end of the 15 minute exposure period; the percentage figure is based on all of the flies in the test. Flies which were not knocked down during the test period but which may have died later are not included in this figure. The figures under Aerosol Test Mortality represent the mortality of all flies and include those which were not knocked down during the exposure period but which died during the 24-hour holding period.

All aerosol formulas were prepared at a 20:80 nonvolatile: propellant ratio except as noted in the tables.

Results

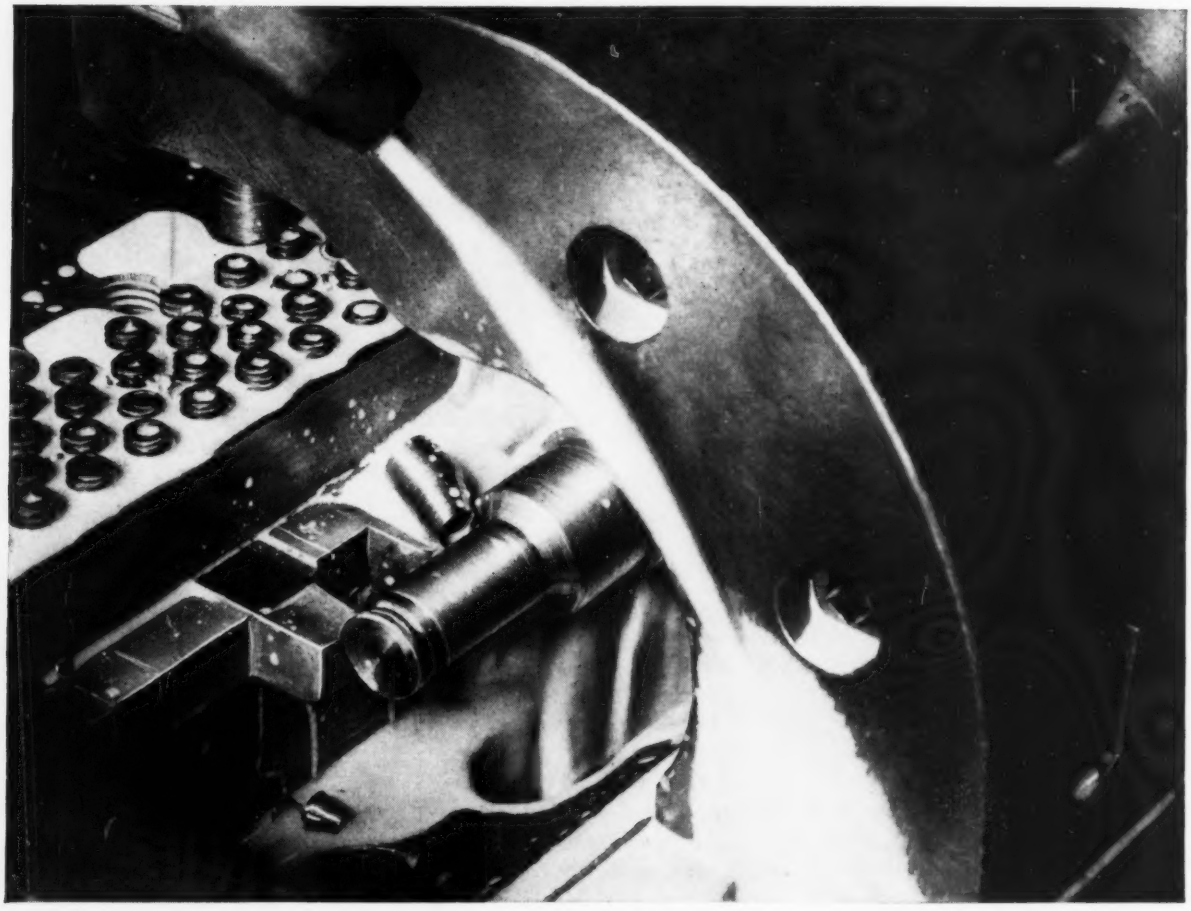
THE results obtained are shown in the tables. The tests shown in Table 1 were of a preliminary nature and were made to demonstrate the difference in resistance between the two strains of house flies and to establish the dosage range in which some of the formulas should be tested. The use of two per cent of DDT or three per cent of methoxychlor in an aerosol formula is usually adequate to insure a mortality comparable to that obtained with the OTA when tested against a normal strain of house flies. In the first series of tests in Table 1 aerosols containing these concentrations of DDT or methoxychlor gave only six per cent mortality of the resistant strain. As shown in Series

Table 3. Aerosol tests against resistant house flies. Average of our large group tests

Aerosol	Dose/ 1000 cu. ft. grams	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
A-828 0.30% Pyrethrins 0.85% Piperonyl Butoxide	3.08	25	56	85	70	71
A-830 0.25% Pyrethrins 1.00% Piperonyl Butoxide	3.06	29	63	90	79	80
A-853* 0.25% Pyrethrins 1.00% Piperonyl Butoxide 2.00% Methoxychlor	3.10	26	53	84	72	73
OTA 0.4% Pyrethrins 2.0% DDT	3.04	26	45	61	17	18
OTA (Non-resistant Flies)	3.19	23	27	55	54	79

* This formula has a 15:85 Nonvolatile propellant ratio.

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Table 4. Aerosol tests against resistant house flies. Average of four large group tests.

Aerosol	Dose/ 1000 cu. ft. grams	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
A-843 0.3% Pyrethrins 1.0% Piperonyl Butoxide	3.2	33	60	86	72	74
A-844 0.3% Pyrethrins 1.5% Piperonyl Butoxide	3.3	33	61	84	78	79
A-846 0.100% Allethrin 0.166% MGK-264 1.000% Thanite 3.000% DDT 1.000% Methoxychlor	8.0	30	54	79	41	42
A-847 0.100% Allethrin 0.166% Piperonyl Butoxide 1.000% Thanite 3.000% DDT 1.000% Methoxychlor	8.47	24	50	78	45	46
OTA 0.4% Pyrethrins 2.0% DDT	3.19	27	45	56	13	14
OTA (Non-resistant Flies)	2.92	26	48	60	60	78

II Table 1, it was necessary in the case of the methoxychlor formula to increase the standard three gram dose to 12 grams in order to obtain a mortality approximately equal to the standard aerosol against normal flies. A formula containing only pyrethrins and piperonyl butoxide as active ingredients gave excellent results against the resistant strain at the regular three gram dosage rate.

Table 2 shows the results obtained with aerosols containing minimum quantities of knockdown agents in combination with two per cent DDT or three per cent methoxychlor tested at eight to nine grams per 1000 cubic feet. At these high dosage rates all of these formulas gave poor mortalities of resistant flies. In this series a pyrethrum-piperonyl butoxide formula again gave excellent results at the regular dosage rate.

Two other pyrethrum-piperonyl butoxide formulas were tested at the regular rate against resistant flies, as shown in Table 3. Formula A-830, which contained 0.25 per cent pyrethrins and 1.0 per cent piperonyl butoxide, when tested against resistant flies gave a much higher knockdown and a kill equal to that obtained with the OTA against normal flies. The addition of two per cent methoxychlor to this formula, however, did not improve either the knockdown or kill of resistant flies.

Table 4 shows the results obtained with two additional combinations of pyrethrins and piperonyl butoxide which gave acceptable results against resistant flies (A-843 and A A-844) at no increase in dosage rate. Formulas A-846 and A-847 are more complex and contain combinations of knockdown agents as well as three per cent DDT with one per cent methoxychlor. Although these formulas were tested at about an eight gram dosage rate, the mortality of resistant flies was very poor.

The results obtained with aerosols containing a combination of pyrethrins and allethrin with a single synergist or with two synergists are shown in Table 5. In this series only A-849 gave results against resistant flies equal to the OTA against normal flies, when the formulas were tested at the regular three gram dosage rate.

Aerosols containing DDT.

(*Turn to Page* 265)

Table 5. Aerosol tests against resistant house flies. Average of five large group tests.

Aerosol	Dose/ 1000 cu. ft. grams	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
A-849 .25% Pyrethrins .15% Allethrin .85% Piperonyl Butoxide	3.0	33	63	86	75	76
A-851 .25% Pyrethrins .15% Allethrin .50% Piperonyl Butoxide 1.00% MGK-264	3.2	26	48	72	53	53
OTA 0.4% Pyrethrins 2.0% DDT	3.1	26	49	61	19	21
OTA (Non-resistant Flies)	3.1	24	40	52	52	74

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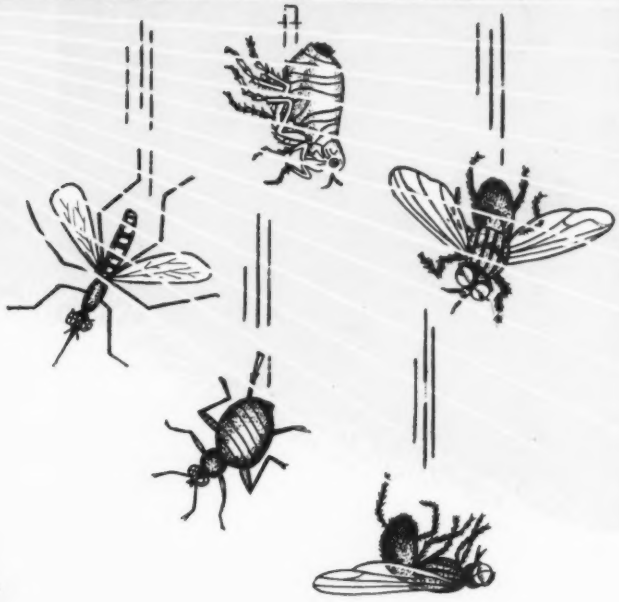
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A granular product containing 90% technical methoxychlor and 10% deodorized petroleum distillate for the preparation of aerosols and residual sprays. It is readily soluble in most solvents used in the preparation of household and cattle sprays. Available in 100-pound drums.

GEIGY METHOXYCHLOR "20"

A solution containing 20% technical methoxychlor for the preparation of household sprays, livestock sprays, aerosols and other products requiring small amounts of methoxychlor in the finished solution. Available in 55-gallon drums.

Yes—put impact in your aerosol and spray formulations with the *quick knock-down, positive stay-down* action of Geigy Methoxychlor.

Safe, economical Geigy Methoxychlor helps build your aerosol sales with its reliable action. Methoxychlor is effective on a variety of insect pests. Its low toxicity to man and animals and long residual toxicity to insects makes this *general purpose insecticide* ideal for aerosol applications.

Geigy Methoxychlor is compatible with pyrethrins, allethrin, and piperonyl butoxide.

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CLOROX...

...F.T.C. Complaint...P&G's Answer

A HEARING on the Federal Trade Commission's complaint against Procter & Gamble Co., Cincinnati, for alleged violations of the Clayton Act, is scheduled to be held in Cincinnati at 10:00 a.m., Dec. 16, 1957. P&G is charged with violating the Anti-merger Law (Section 7 of the Clayton Act) as the result of its purchase of Clorox Chemical Co., formerly of Oakland, Calif. The complaint alleges that the acquisition "may substantially lessen competition or tend to create a monopoly in the production and sale of household liquid bleaches."

Following service of the complaint earlier this fall, P&G answered it on Nov. 4. The complete text of both the original FTC complaint and P&G's paragraph-by-paragraph answer appear below.

* * *

Because of its widespread interest the text of the Federal Trade Commission's complaint against Procter & Gamble is published in full. P&G's paragraph-by-paragraph reply is interspersed in the complaint in bold face type. This type was chosen to distinguish the complaint from the answer. The P&G answer to each paragraph is inserted at the end of each paragraph of the FTC complaint for the convenience of the reader. This handling makes it easier for the reader to follow charge and answer than to run the complete text of the complaint followed by P&G's entire reply.

It should also be borne in mind that this answer is not Procter & Gamble's complete defense. Naturally, additional, more detailed information and testimony will be offered should the action be taken to the courts.

Earlier, Richard R. Deupree, P&G chairman stated that present theories guiding administration of the nation's anti-trust laws seem to make it a "serious fault" for a company to be successful in marketing products which gain wide consumer acceptance.

Speaking before some 250 Staten Island civic leaders at a dinner commemorating the 50th anniversary of Procter & Gamble's plant there, Oct. 10, Mr. Deupree said these theories "make us wonder how in the world a successful company can continue to serve a growing population and still stay out of trouble."

Mr. Deupree said it is hard for his company to understand the reasoning behind the complaint.

"This action directly affects P&G," he said, "but we think it should also be disturbing to all businessmen and every man and woman who works for a successful business because it says basically that success through effective competition is illegal." He pointed out that the complaint doesn't accuse either P&G or Clorox of monopoly or restriction of competition, admits that P&G and Clorox were not competitors, and recognizes that the liquid bleach would be an entirely new product for P&G.

The complaint claims, he said, that P&G's purchase of Clorox and entry into the liquid bleach field is illegal because it "may" substantially lessen competition or tend to create a monopoly in the future.

"The real basis of the complaint is that Procter & Gamble is a successful company; it advertises widely; it makes products which are broadly accepted by housewives and other consumers," Mr. Deupree said. "In other words, Procter & Gamble has been a successful competitor in its business fields and, as a result, has grown and prospered."

The key to the complaint is that the "business competence" and success of P&G make it illegal for the company to enter this new field of business, he said.

"The theory is that if 'Company A' is successful in the face of strong competition in one field, it cannot apply its talents to another field by acquiring 'Company B.' It can't do that because its success in the first field indicates it will also compete successfully in the second field," Mr. Deupree said.

He declared that this theory is entirely opposite to the historical idea that American free enterprise required "an effort to be successful in your business and to give maximum service to the public."

"We've always felt that any success resulting from serving the public well was a well-deserved success, indeed a virtue, and not a serious fault," the P&G executive said.

Mr. Deupree, president of P&G for eighteen years and board chairman since 1948, pointed out that the complaint strongly emphasizes P&G's "ability to command consumer acceptance of its products." However, he added, this "ability" is attributed to strong advertising, promotion and merchandising.

"It completely ignores the

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fundamental importance of product quality in effective competition," he said. "No credit is given to the quality of products. The judgment of the consumer, who is the ultimate winner in competition among companies for her favor, is not even considered."

The executive said his company knows from 120 years of experience in making products to please the homemakers of America that the quickest way to eliminate a poor product from the market would be to advertise and promote it heavily.

"You may get the homemaker to buy a product the first time through advertising and promotion," he said, "but if that product isn't a good one, if it doesn't live up to your claims, you can be sure she isn't going to buy it again."

Mr. Deupree noted that the staff of the FTC was given full information last May about the planned acquisition of Clorox. He said the complaint wasn't filed until Oct. 7, more than two months after the transaction was completed on Aug. 1.

Procter & Gamble Company declared that the Federal Trade Commission staff "completely ignored" basic factors of the American competitive system when it charged P&G with illegal acquisition of the Clorox Chemical Co.

In the answer P&G denied that its purchase of Clorox was illegal and listed three "all-important" factors – completely ignored in the complaint–which P&G says will affect future sales of household liquid bleaches: product quality, consumer preferences and technological advances. These factors, the answer declared, "are certain to have a much greater effect than changes of ownership of the company involved."

Howard J. Morgens, P&G president, commenting on the formal answer, said his company intends to defend the acquisition vigorously.

"We feel we must oppose the complaint," Mr. Morgens said, "for we think it applies a theory strange to the U.S. competitive system which should be disturbing to all businessmen and all persons who work for a successful business. In effect, the complaint holds that a company which has been a successful competitor in one field should be prevented from applying its competitive talents in a new field."

The answer admits the complaint's allegation that P&G has been successful in marketing low-cost products which have had wide consumer acceptance. It requests, however, dismissal of the FTC proceedings on the grounds that "there is no cause of action . . . and no basis in law or fact for any cease and desist or devestiture order."

Mr. Morgens said the complaint theorizes that P&G's competitive success in its previous fields proves the company will be successful in the liquid bleach field.

"Certainly we hope to be successful in the new field," he said, "but we cannot guarantee that we will. Neither can anyone else. We know–and the complaint ignores the fact – that technological advances can quickly give one competitor a big advantage over another by product improvement. We also know – and the complaint ignores the fact – that American consumers have the unquestioned right to choose the products they like best. P&G has no assurance it will not be hurt competitively by a product improvement made by some other bleach company. Neither do we have any assurance that housewives will choose Clorox over a competing brand."

The P&G president asserted that the complaint's basic theory is that it is illegal to be successful in providing products which people like and buy.

"The complaint emphasizes that P&G through advertising and promotion has some unusual 'ability to command consumer acceptance' of its products and implies that we can somehow force people to buy Clorox," Mr. Morgens said.

P&G knows from its 120-years of experience in making household products that it cannot "command" housewives to buy its products, he added.

"It's just the opposite. If we don't offer good, high-quality products at a low cost, the housewives issue the 'command.' They quickly exercise their right of product preference and buy what they want, no matter who makes it. The FTC complaint seems to assume they are going to give up that right. We know they aren't," Mr. Morgens said, "because over 70 per cent of our household volume today is in products that were not even in existence 12 years ago."

* * *

UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION
In the Matter of
THE PROCTER & GAMBLE COMPANY,
DOCKET 6901

COMPLAINT

The Federal Trade Commission, having reason to believe that the party respondent named in the caption hereof, and hereinafter more particularly designated and described, has violated and is now violating the provisions of Section 7 of the Clayton Act (U.S.C., Title 15, Sec. 18) as amended and approved December 29, 1950, hereby issues its complaint, pursuant to Section 11 of the aforesaid Act (U.S.C. Title 15, Sec. 21) charging as follows:

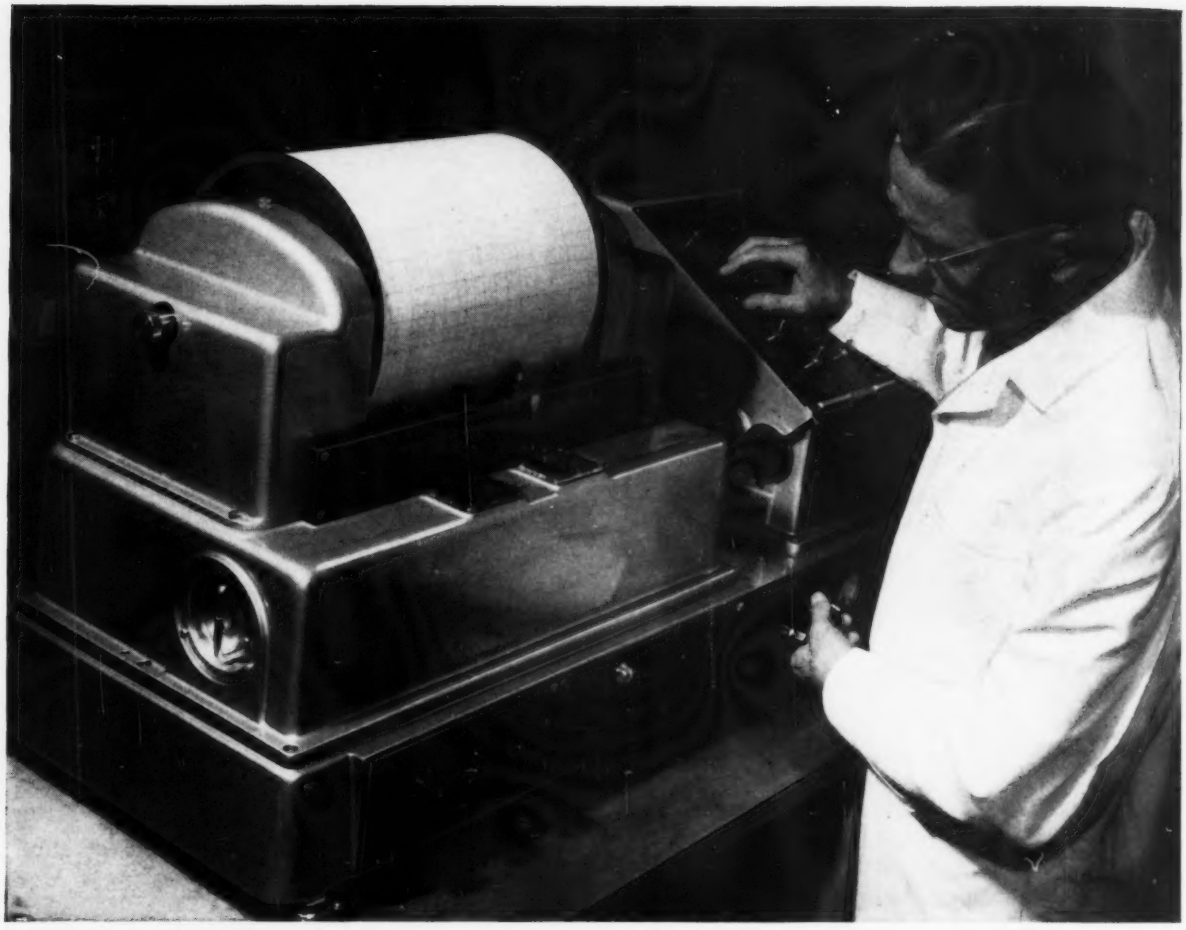
PARAGRAPH ONE: Respondent, The Procter & Gamble Company (hereinafter referred to as "respondent") is a corporation organized and existing under the laws of the State of Ohio, with its office and principal place of business at The Procter & Gamble Building, 301 East Sixth Street, Cincinnati, Ohio.

ANSWER: The allegations of Paragraph One are admitted.

PARAGRAPH TWO: The Clorox Chemical Co. (hereinafter referred to as "Clorox") was, prior to August 1, 1957, a corporation organized and existing under the laws of the State of Delaware, with its office and principal place of business at 850 — 42nd Avenue, Oakland, California.

ANSWER: The allegations of Paragraph Two are admitted.

PARAGRAPH THREE: Respondent, directly and through various completely-owned subsidiary corporations, is engaged principally in the manufacture and sale of packaged soaps and detergents, paper products, shortening and other food products, and shampoos, dentifrices and home permanents, which are sold under advertised brand names. The respondent is the leading producer in the United States of soap and detergent products and a major producer in its other principal product fields. The most important consumer household brands which are sold



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Hercules anticipates that recent expansion of plant facilities at Brunswick, Georgia will assure an adequate supply of the same high quality meta Delphene for the 1958 season.

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by respondent to retail and wholesale grocery and drug outlets, department stores and variety stores are as follows:

Soaps, Detergents and Cleansers: Ivory Soap, Ivory Flakes, Ivory Snow, Camay—toilet soap, Lava—pumice hand soap, Duz—detergent, Tide—detergent, Cheer—detergent, Dreft—detergent, Oxydol—detergent, Dash—low sudsing detergent, Joy—liquid detergent, Comet—household scouring cleanser, Cascade—automatic dishwasher detergent, Spic and Span—paint and linoleum cleaner, Zest—toilet detergent bar.

Food Products: Crisco—shortening, Golden Fluffo—shortening, Big Top—peanut butter, Duncan Hines—prepared mixes—16 kinds.

Toilet Goods: Crest—fluoridated toothpaste, Gleem—toothpaste, Drene—shampoo, Prell—shampoo, Shasta—shampoo, Lilt—home permanent, Pin-It—home permanent.

Paper Products: Charmin—toilet tissue, Lady Charmin—toilet tissue, Charmin—facial tissue, Charmin—napkins, Charmin—towels, Evergreen—industrial paper products.

Respondent is also marketing "American Family" soap, flakes and detergents in the greater Chicago area. Selected market areas are being used by respondent to market "Biz" liquid detergent, "Whirl" liquid shortening, "Secret" personal deodorant, "Ivory" liquid detergent, "Jif" peanut butter and "Velvet Blend" shampoo.

Respondent also manufactures soaps, detergents, shortenings and edible oils for sale in bulk quantities to laundries, hotels, institutions, the baking industry and other industrial users; vegetable oils and chemicals chiefly for use in its own products; and by-products, such as glycerine, for sale to industrial users.

Respondent does a substantial manufacturing and marketing business abroad in consumer products similar to those manufactured and marketed in this country. Said business is conducted through completely-owned subsidiary corporations located in Canada, England, Cuba, the Philippines, Indonesia, Mexico, Venezuela, and Belgium.

ANSWER: In connection with the first subparagraph, respondent and its subsidiaries are engaged principally in the manufacture and sale of packaged soaps and detergents, paper products, shortening and other food products, and shampoos, dentifrices and home permanents, which are sold under advertised brand names. Respondent is one of the leading producers in the United States of soap and detergent products and it is one of the major producers in its other principal product fields. The most important consumer household brands of respondent are sold by it to retail and wholesale grocery and drug outlets, department stores and variety stores. It is alleged that the various brands of respondent vary greatly not only in their nature and content but also in their respective proportion of the total sales of respondent. In place of the list of the most important brands sold by respondent, shown (above), the following should be substituted:

***Soaps, Detergents and Cleaners*: Ivory Soap—all-purpose bar soap, Ivory Flakes—mild all-purpose flake soap, Ivory Snow—mild all-purpose granulated soap, Camay—hard-milled perfumed toilet soap, Lava—pumice hand soap, Duz—detergent and granulated soap, Tide—heavy-duty detergent, Cheer—heavy-duty detergent, Dreft—light-duty detergent, Oxydol—heavy-duty detergent, Dash—low sudsing heavy-duty detergent, Joy—liquid general purpose detergent, Comet—scouring cleanser, Cascade—detergent for automatic dishwashers, Spic and Span—paint and linoleum cleaner, Zest—detergent toilet bar.**

***Food Products*: Crisco—vegetable shortening, Golden Fluffo—vegetable and lard shortening, Big Top—peanut butter and peanuts, Duncan Hines—prepared baking mixes—15 kinds.**

***Toilet Goods*: Crest—fluoridated toothpaste, Gleem—toothpaste, Drene—liquid shampoo, Prell—paste and liquid shampoo, Shasta—cream shampoo, Lilt—home permanent, Pin-It—home permanent.**

***Paper Products*: Charmin—household toilet tissue, Charmin—facial tissue, Charmin—paper napkins, Charmin—paper towels, Evergreen—industrial paper towels and tissue.**

The first sentence of the second subparagraph is admitted. The second sentence is admitted to the following extent: "Biz" liquid detergent, "Whirl" liquid shortening, "Secret" personal deodorant, "Ivory" liquid detergent, "Jiff" peanut butter and "Velvet Blend" shampoo are being marketed only in limited areas.

The third subparagraph is admitted.

In connection with the fourth subparagraph, respondent admits that subsidiaries in the countries set forth in such subparagraph manufacture or market abroad products similar to some of the products manufactured and marketed by it and its subsidiaries in this country. However, it is alleged that the fourth subparagraph is irrelevant and immaterial and should be stricken.

Except as herein admitted, each and every allegation of Paragraph Three is denied.

PARAGRAPH FOUR: Respondent, directly and through its completely-owned subsidiaries, maintains factories for the manufacture of household and industrial soaps and detergents, shortenings, toilet goods, edible vegetable oils and food products in the United States at the following locations:

Cincinnati and St. Bernard, O.; Chicago, Ill.; Staten Island, N. Y.; Kansas City, Kans.; Macon, Ga.; Dallas, Tex.; Dayton, O.; Lexington, Ky.; Baltimore, Md.; St. Louis, Mo.; Long Beach, Calif.; Sacramento, Calif.; Portsmouth, Va.; Quincy, Mass.; Iowa City, Ia.; Jackson, Miss.; Omaha, Neb.

In addition to the aforementioned locations, respondent and its completely-owned subsidiaries own vegetable oil mills located at Augusta and Macon, Ga.; Charlotte and Raleigh, N. C.; Montgomery and Selma, Ala.; Corinth and Jackson, Miss.; Memphis, Tenn.; Little Rock, Ark.; New Madrid, Mo.; Louisville, Ky.; Fort Worth, Tex.; Baltimore, Md.; Long Beach, Calif.; and Toronto, Canada. Respondent and its completely-owned subsidiaries also operate chemical pulp plants at Memphis, Tenn., and Foley, Fla.; research facilities at Venice, O.; and paper production facilities at Green Bay and West DePere, Wis. and a wood-pulp plant at Green Bay.

ANSWER: The first subparagraph is admitted except the first six lines should read as follows: "The factories of respondent and its subsidiaries for the manufacture of household and industrial soaps and detergents, shortenings, toilet goods, edible oils and food products in the United States are at the following locations":

The second subparagraph is admitted except the first three lines should read as follows: "Respondent and its subsidiaries own vegetable oil mills located at Augusta and Macon," and except that the words "Baltimore, Maryland;" should be eliminated.

Except as herein admitted, Paragraph Four is denied.

PARAGRAPH FIVE: Respondent is engaged in the sale of products designated in Paragraphs Three and Four herein in commerce, as "commerce" is defined in the Clayton Act. During the fiscal year ending June 30, 1956, respondent's net sales of such products were $1,038,290,374. Estimated net sales for the fiscal year ending June 30, 1957, are $1,148,000,000.

ANSWER: Respondent alleges that not all of its products were sold in "commerce", as "commerce" is defined in the Clayton Act, and also alleges that the net sales of respondent and its subsidiaries for the fiscal year ending June 30, 1956, were $1,038,290,374 and for the fiscal year ending June 30, 1957, were $1,156,389,726. Otherwise, respondent admits the allegations in Paragraph Five.

Except as herein admitted, Paragraph Five is denied.

PARAGRAPH SIX: According to the latest information available, respondent accounted for the following percentages of the total United States market in its designated major product fields by value of shipments:

Product Field	*Percentage of U. S. Market*
Toilet Soaps (bar soaps)	24%
Laundry Soaps (bar soaps)	91%
Package Soap Chips	52%
Package Soap Powders	51%
Liquid Detergents	45%
Packaged Detergents	58%
Shampoos	24%
Toothpastes	34%
Vegetable Shortenings	36%

ANSWER: The allegations of Paragraph Six are denied.

PARAGRAPH SEVEN: Respondent has increased its size, operations, sales, profits, assets and earned surpluses tremendously in recent years. Since 1946 respondent's



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The importance of Mrs. Buyer's nose can't be underestimated in considering the selling factors involved in the successful merchandising of your product.

- **Her nose influences the first purchase in the store.**
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. . . give your product a forceful selling factor through the use of knowingly effective odor treatment.

VAN AMERINGEN - HAEBLER, INC.

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net worth, net sales and net profit have increased over 300%. Respondent now employs over 18,000 persons in the United States and over 8,000 persons abroad. Respondent is constantly diversifying its operations and manufacturing and selling new products. Respondent has also entered into the production and sale of additional products by acquiring assets and stock of existing producers of said products. Among such acquisitions in recent years have been the following:

Year	*Company*	*Product or Activity*
1955	W. T. Young Foods, Inc.	"Big Top" Peanut Butter and peanut products
1956	Prepared Mix Division of Nebraska Consolidated Mills, Inc.	Cake Mixes
1956	Hines-Park Foods, Inc.	Distributor of food products, principally cake mixes
1956	Duncan Hines Institute, Inc.	Licenses for prestige eating establishments
1957	Charmin Paper Mills, Inc.	Paper tissues and related paper products
1957	Clorox Chemical Co.	Liquid bleach

Respondent has also acquired numerous soap and detergent companies since 1905. Respondent was originally founded in 1837 and has constantly expanded by acquisition, by integration, and by diversification to reach its present standing.

ANSWER: The first sentence of the first subparagraph is admitted except that the word "tremendously" is ambiguous and this sentence is, therefore, denied.

The third sentence of the first subparagraph is admitted, with the addition of the words "and its subsidiaries" after the word "Respondent".

As to the fourth sentence, it is admitted that respondent has diversified its operations in some instances.

As to the fifth and sixth sentences of the first subparagraph, respondent admits that it acquired in the year specified the various companies listed on page five of the Complaint, but alleges that Hines-Park Foods, Inc. was concerned with licensing the Duncan Hines trademark for use on various food products and that Duncan Hines Institute, Inc. was concerned with licensing the Duncan Hines trademark for use on household appliances and publishing directories of dining and lodging establishments. Respondent also alleges that the acquisitions of Hines-Park Foods, Inc. and Duncan Hines Institute, Inc. were necessary in order to acquire the Duncan Hines trademark.

The first sentence of the second subparagraph is admitted except that respondent has never acquired a detergent company and the word "numerous" is ambiguous and this sentence is, therefore, denied.

In connection with the second sentence in the second subparagraph, it is admitted that respondent was founded in 1837, but as a partnership, and that it has expanded from time to time since that date. Such expansion resulted in part from acquisition and from diversification but principally by natural internal growth of respondent, from improvement of its products and from the satisfaction with and acceptance by consumers of such products.

Except as herein admitted, each and every allegation of Paragraph Seven is denied.

PARAGRAPH EIGHT: Prior to Aug. 1, 1957, Clorox was engaged in the production and sale of sodium hypochlorite liquid bleach and disinfectant. Said product was sold nationally under the trade name "Clorox," in commerce, as "commerce" is defined in the Clayton Act. In the fiscal year ending June 30, 1956, net sales of "Clorox" were $36,409,197.70. Net sales of "Clorox" for the fiscal year ending June 30, 1957, were approximately $40,000,000. Clorox is, and has been for many years, the largest producer of household liquid bleach in the United States. In 1956 Clorox produced and sold approximately 48% of all household liquid bleaches sold in the United States. The number two producer in this field accounted for approximately 16% of all household liquid bleaches sold. The remaining producers, approximately forty in number, accounted for the remaining 36% of sales of household liquid bleach in the United States in 1956. Within the latter group of producers, no single liquid bleach producer enjoyed over 5% of the national household liquid bleach market.

ANSWER: The first four sentences of Paragraph Eight are admitted.

In connection with this and all subsequent paragraphs, respondent does not admit the legal or practical validity of complainant's "household liquid bleach market."

Except as herein admitted, each and every allegation of Paragraph Eight is denied.

PARAGRAPH NINE: On or after Aug. 1, 1957, respondent acquired Clorox as a going concern, including all of Clorox's assets, trade-marks, business and good will. The acquisition was achieved by respondent exchanging 8½ shares of its stock for every 10 shares of Clorox stock outstanding. The market value of respondent's exchanged stock was approximately $30,000,000. The assets of Clorox were valued at approximately $15,000,000 at the time of the acquisition.

Under the terms of the acquisition agreements, respondent was given the exclusive right to the name "Clorox." Respondent formed a new Ohio corporation, The Clorox Company, as a completely-owned subsidiary, to commence the manufacture and sale of "Clorox" liquid bleach and transferred the assets and intangibles obtained from Clorox to said subsidiary corporation. The Clorox Chemical Co. was dissolved after its officers distributed respondent's exchanged stock to the stockholders of Clorox Chemical Co. under the ratio of exchange.

ANSWER: With respect to Paragraph Nine, respondent alleges that on August 1, 1957, pursuant to a plan of reorganization, The Clorox Company acquired substantially all of the then existing assets and business as a going concern of Clorox Chemical Co., including without limitation, all of its good will and rights to the use of its name or any variant thereof, and gave solely in exchange therefor 639,578 shares of respondent's fully paid and non-assessable $2.00 par value common shares. Respondent admits that it incorporated The Clorox Company under the laws of the State of Ohio, that The Clorox Company is a wholly owned subsidiary of respondent and that Clorox Chemical Co. has been dissolved.

Except as herein admitted, each and every allegation of Paragraph Nine is denied.

PARAGRAPH TEN: Prior to the aforementioned acquisition, Clorox was the dominant factor in the household liquid bleach market. Said position had been achieved through extensive advertising which had made the product "Clorox" well known and accepted in American households. Production of "Clorox" took place at factories in Atlanta, Ga.; Boston, Mass.; Camden, N. J.; Charlotte, N. C.; Chicago, Ill.; Cleveland, O.; Houston, Tex.; Jersey City, N. J.; Kansas City, Mo.; Los Angeles, Calif.; Oakland, Calif.; Seattle, Wash.; and Tampa, Fla., prior to the acquisition. These regional production plants enabled Clorox to reduce freight costs of its finished product. Said freight costs are a significant factor in the sale of household liquid bleach.

Clorox had experienced a pattern of constant growth and expansion in the five years prior to the aforementioned acquisition and its share of the household liquid bleach market had been constantly increasing. Clorox produced no product in addition to "Clorox" bleach. At the time of the aforementioned acquisition Clorox was dominant in its product market, was operating profitably and its product "Clorox" was firmly established by public acceptance. Said public acceptance and the value of the well known and widely advertised name "Clorox" is demonstrated by the fact that respondent paid Clorox far in excess of the value of Clorox's assets in the acquisition aforementioned, said excess amount representing the value of the tradename "Clorox" and the good will of Clorox.

ANSWER: In connection with the second sentence of the first subparagraph, it is admitted that the product "Clorox" was well known and accepted in the American households, and that

(*Turn to Page* 137)

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★ **No-Burn Gym Finish*** — The outstanding original finish for gym floors. Will not rubber burn — withstands boiling water, resists alkalies, acids, heat and cold.

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Asphalt Tile Finish* — Renews and refinishes asphalt, rubber, linoleum and mastic floors. Seals and finishes new or old floors with one coat.

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C.P.R. Sealer* — Outstanding development in floor sealers. Penetrates without usual discoloration — will not darken with age. May be used ★ under heaviest traffic conditions. Highly water, wear and chemically resistant.

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★ **Penetroil*** — Very pale in color. Approved by Maple Flooring Manufacturers Association. Properly fills the pores with a durable elastic film — water resistant.

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Surface Seal — A fast drying surface finish recommended for all types of previously sealed floors. Light in color and high in gloss this finish resists yellowing.

Flex Cure Seal — Rubber base penetrating sealer for use on new concrete floors to prevent dusting, staining and discoloration. Requires no etching — dries in less than an hour — one coat application.

Flex-Cure-Seal-Metallic — This product was developed especially for new concrete floors where a one coat treatment is desired with the combined sealing and dustproofing action—plus a hiding agent for discolorations. Dark spots on concrete floors are eliminated—dries in 1 hour.

Concrete Sealer — Quick drying oleo-resinous especially formulated for concrete surfaces. Suitable for large industrial applications where maximum chemical resistance is not required.

Terrazzo Sealer* — Water white—will not discolor terrazzo. Prevents dusting, chipping and disintegration. Resists water, soap, acid and alkali.

Mastic (Asphalt)* Tile Sealer* — Seals tile against dust, dirt, grease, etc. Dries in less than an hour — will not soften tile or run the colors. Beautifies and highlights original colors.

Ready Mixed Color Concentrates — Beauty and durability for cement, concrete, wood and metal. Applied with brush or lamb's wool applicator. ★ Resists oils, gasoline, alcohol, mild acids and alkalies.

★ **MAPLE FLOOR MANUFACTURERS ASSOCIATION APPROVED.**

WAXES

Super Lightning Lustre* — Self-polishing, high quality, extra heavy duty wax. Pure Carnauba Wax-Base. Light color — highly water resistant — longer wear and buffability.

Super Lightning Lustre-With Ludox — Same base as the above wax with Ludox added to give maximum anti-slip protection without sacrifice of gloss, durability or other fine performance features.

Slo-Tred* — Self-polishing. Tested and approved by Underwriters' Laboratories, Inc., as an anti-slip material. Made with Carnauba wax—high gloss.

L-1290 Concentrate — 25% Solids — Extremely stable wax concentration for reduction to lower solid content. Retains high gloss—excellent water resistance — anti-slip and good durability at any lower solid content.

Liquid Oil Base Wax — Buffs and polishes beautifully—easily applied with a mop or applicator. Super quality.

Var-Lin — Carnauba Base liquid buffing wax. White, will not discolor linoleum or wood floors. Makes excellent finish for sealed concrete floors. Highest quality obtainable.

Tuf-Wax — Buffable emulsion paste wax for use on any type of composition flooring where maximum hardness, non-slip and water resistance is required. Produces a film of high luster and toughness.

QUALITY and PROFITS

SPECIAL FLOOR TREATMENTS

Gloss Grip* — A new waxless, water-soluble synthetic floor sealer and finish for use on all types of floors. Particularly recommended for Asphalt Tile, Vinyl and Rubber Tile floors. High gloss—no wax—safety for all floors. Does not contain Ludox.

Sila-Kone-Gloss* — New type of floor treatment containing silicone. Requires no polishing. Economical, safe floor maintenance.

Sil-Lox* — A wax replacement finish containing silicone and Ludox for positive anti-slip. No polishing required. Ideal for hard surface floors. Easy to remove.

**Listed and Approved by Underwriters Laboratories as an Anti-Slip Material.*

SPECIAL CLEANING, MAINTENANCE AND FINISHING MATERIALS . . .

Con-Treat — Combination cleaner and etcher for concrete to be applied before sealer.

Dust-A-Sheen — Emulsion wax base dust mop treatment.

Magic Floor Spray—For treating dust mops, cleaning and polishing of hard floors.

Gym Finish Cleaner and Polish—Solvent cleaner for removal of rubber marks and maintenance of gymnasium floors.

No. 70 Restorer* — Wax base, waterless cleaner and finish for hard floors.

No-Burn Varnish Remover—Non-inflammable remover for paints, varnishes, sealers and finishes. Heavy bodied.

Strip-Fast Stripper — Non-inflammable stripper for paints, varnishes, sealers and finishes. Especially for floors.

Triple Strength Varnish Remover — Semi-paste, inflammable remover. Quick acting. Economical.

Lightning Lustre Wax Base Soap — Combines cleaning and waxing action for all types of floors.

Asphalt Tile Cleaner and Conditioner — Detergent type cleaner for quick and thorough cleaning of all floors. Safe — economical.

Concentrated Cleaner and Conditioner — More highly concentrated Asphalt Tile Cleaner and Conditioner.

Kwick Kleen-Double Concentrate Cleaner — Neutral cleaner in double concentrate form—synthetic detergent with activated action for removal of soap scum, oil, dirt and grease. Safe for all floors.

Wax Kutter — Powerful—Wax Dissolving Action — Will emulsify and soften old wax films, dirt, oil, etc.—Use on any floor.

Line-All — A fast drying latex type gym marking floor enamel. Any of our gym finishes can be put over this paint in 2 hours. Available in 7 colors.

Gym Floor Marking Enamel—Oil based gym floor marking enamel and general purpose enamel. Deep brilliant colors produce a durable glossy finish.

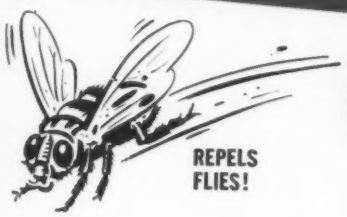
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FLY REPELLENT

CRAG Fly Repellent has an effective two-way action different from any other fly spray ingredient:

1 **The powerful repelling action of CRAG Fly Repellent keeps biting flies, gnats and mosquitoes away from livestock on pasture. In some oil spray formulations, it often repels these insects for three to four days.**

2 **CRAG Fly Repellent extends the killing power of residual toxicants and synergizes pyrethrins in the spray formulation. Thus, it makes the insecticide more effective—helps kill flies when they return.**

The exclusive two-way action of CRAG Fly Repellent makes it possible for you to formulate a more effective fly spray at little or no extra cost because you use less toxicant in your formulation. The net result is a spray that offers better overall protection against flies... more profits for you and farmers. For seven years thousands of farmers have successfully used livestock and dairy sprays containing CRAG Fly Repellent. It is recommended by agricultural experiment stations in most leading dairy states. More livestock and dairy sprays contain CRAG Fly Repellent than any other repellent. It will pay you to investigate the many advantages of CRAG Fly Repellent.

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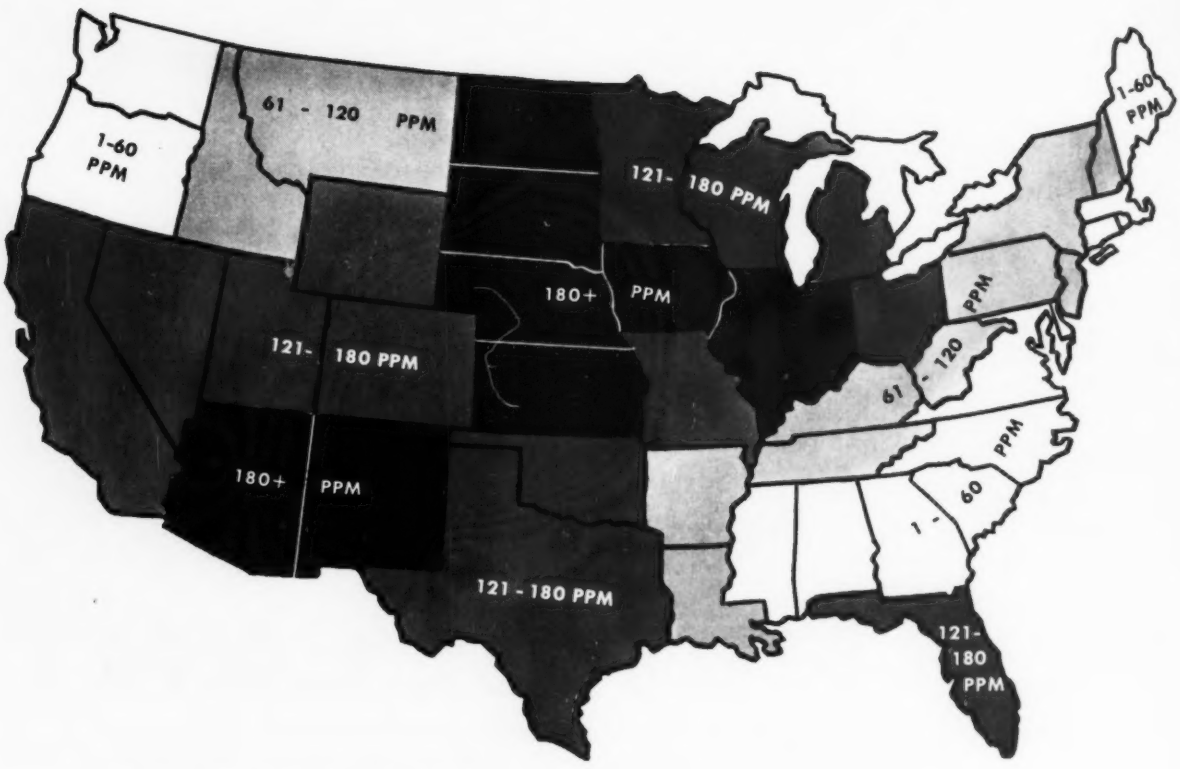
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This will bring all the advantages of HYAMINE-TRITON dairy detergent sanitizers to areas with water hardnesses up to 600 ppm. Furthermore, it is expected that regional tests may validate the use of these products at even higher levels of hardness. As a result, dairy farmers and commercial dairies in practically all regions will be able to wash and sanitize equipment and utensils in *one easy operation.*

HYAMINE-TRITON detergent sanitizers have already demonstrated outstanding cleansing and germ-killing power in New York State and many southern areas. They are safe and odorless, relatively easy to test for activity, and leave no toxic residue when used in recommended amounts. Write today for complete information.

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Representatives in principal foreign countries

HYAMINE *and* TRITON *are trade-marks, Reg. U.S. Pat. Off. and in principal foreign countries.*

(*From Page* 133)

it was advertised. The other allegations in this sentence are conclusory and are denied for lack of information and belief and should be stricken.

The third sentence in the first subparagraph is admitted.

The fourth and fifth sentences in the first subparagraph are conclusory, relative and ambiguous and are denied by respondent for lack of information and belief and should be stricken.

In connection with the first sentence of the second subparagraph, it is admitted that the business of Clorox Chemical Co. has grown in the past five years.

As to the third sentence in the second subparagraph, it is admitted that Clorox Chemical Co. was operating profitably and that its product "Clorox" had public acceptance. The remainder of this sentence is conclusory and ambiguous and is denied and should be stricken.

In connection with the fourth sentence of the second subparagraph, it is admitted that the product "Clorox" had public acceptance and that the trade name "Clorox" had value. It is further alleged that the real value of the assets of Clorox Chemical Co. necessarily and properly included, among other things, the value of its trade name and good will. It is denied that as a result of the acquisition, the Clorox Chemical Co. received in excess of the true value of its assets.

Except as herein stated, each and every allegation of Paragraph Ten is denied.

PARAGRAPH ELEVEN: Respondent, by virtue of the acquisition of Clorox, has entered a market in which it did not formerly compete or offer a competitive product. Respondent, in so doing, has replaced the dominant factor in that market with its own dominant ability to produce and sell which threatens the household liquid bleach market with extremely adverse competitive effects. Prior to the aforementioned acquisition, Clorox —with assets of approximately $15,000,000; accumulated retained earnings of approximately $6,000,000; annual net income of approximately $2,000,000; and annual net sales of approximately $40,000,000 — was gaining a steadily larger share of the household liquid bleach market as the market share of the other household liquid bleach producers constantly diminished. As a result of the acquisition, said household liquid bleach producers must now compete with respondent—with assets of approximately $726,000,000; accumulated retained earnings of approximately $409,000,000; annual net income of approximately $60,000,000; and annual net sales of approximately 1.2 billion dollars.

ANSWER: In connection with the first sentence of Paragraph Eleven, respondent admits that by virtue of the acquisition, respondent has entered a market in which it did not formerly compete or offer a competitive product.

Respondent admits that the figures in the third sentence are approximately those shown by the books of Clorox Chemical Co. except that the book value of the assets (exclusive of good will, etc.) was $11,731,000 and the accumulated retained earnings were about $7,013,000. In connection with the rest of this sentence, it is alleged that Clorox Chemical Co. had made gains in sales on a dollar basis but respondent denies for lack of information the allegations as to Clorox' relative share of the market and the relative share of other bleach producers.

The figures stated in the fourth sentence would be approximately correct if stated as follows: As of June 30, 1957, the assets of respondent and its subsidiaries were $688,272,623; the accumulated retained earnings were $389,303,033; the consolidated net earnings were $67,807,376; and the annual net sales were $1,156,389,726. Respondent denies any inference in the fourth sentence that any competitive burden is or may be placed on other bleach producers.

Except as herein admitted, each and every allegation of Paragraph Eleven is denied.

PARAGRAPH TWELVE: In addition to its economic strength and ability, as delineated heretofore, respondent is a recognized leader in the merchandising of household or grocery store products. The vast majority of respondent's products, and "Clorox," are sold in grocery stores at low prices and in large volume. Such products require consumer acceptance in order to obtain critically short and valuable shelf space in the grocery stores. Such consumer acceptance of these products, especially soaps, detergents, cleansers, bleaches and toilet goods is obtained by extensive advertising. Respondent is the second largest advertiser of all products in the United States, having spent approximately $79,000,000 for advertising of its products in 1956, utilizing all media and means of reaching the consuming public.

In conjunction with its advertising, respondent has been extremely successful in promoting its household products. Respondent has utilized various promotional devices — including "two-for-one" sales, free samples, price-reducing coupons, reduced prices, and premiums for purchase — to a high degree.

ANSWER: As to the first sentence of the first subparagraph, it is admitted that respondent merchandises the products enumerated in Paragraph Three of its Answer.

As to the second sentence of the first subparagraph, it is admitted that respondent and its subsidiaries sell at low prices and sometimes in large volume as do competitors.

In connection with the third sentence of the first subparagraph, respondent alleges that there is consumer acceptance of and satisfaction with the products of respondent and its subsidiaries and that by reason of such consumer acceptance and satisfaction retailers devote an appropriate amount of shelf space to those products and to products of other manufacturers.

In connection with the fourth sentence of the first subparagraph, respondent admits that it advertises its products well. Such advertising contributes to consumer acceptance only if and when such products, in themselves and in relation to competitive products, are satisfactory to the consumer.

The advertising expenditure in the fifth sentence of the first subparagraph is not denied. It is further alleged that respondent uses various media for presenting its products to the consuming public.

In connection with the second subparagraph, respondent admits that it has been successful in the promotion and sale of many of its products and that it has used from time to time for specific products promotional methods including those mentioned in this subparagraph or methods somewhat like them.

Except as herein admitted, each and every allegation of Paragraph Twelve is denied.

PARAGRAPH THIRTEEN: The ability of respondent to utilize advertising and promotional devices to gain shelf space and to sell its products, as set forth in Paragraph Twelve, has been vividly demonstrated in the recent past. Respondent introduced a new toothpaste, "Gleem," in 1953, and another new toothpaste, "Crest," in 1956. By utilizing its advertising and promotional ability, as aforesaid, "Gleem" had acquired 25% of the toothpaste market by 1955 and "Crest" acquired an additional 13% of said market in its first year of production.

In a field more directly related to liquid bleaches, the household cleanser market, respondent introduced in 1956 a new product, "Comet." By utilizing its advertising and promotional ability, as aforesaid, "Comet" acquired approximately 29% of the household cleanser market by March, 1957, nine months after it was first introduced. In said promotions respondent distributed approximately 30,000,000 miniature samples of "Comet" at an estimated cost of 3.3 million dollars.

These examples of the effectiveness of respondent's merchandising and advertising ability and power with new and previously unknown products demonstrate the impact on the household liquid bleach market that respondent, as a result of the acquisition of Clorox, can now accomplish with the already existing, dominant, well-known and established product "Clorox." Said impact will be to the competitive disadvantage of household liquid bleach manufacturers and the household liquid bleach industry.

ANSWER: In connection with the first subparagraph, respondent admits that "Gleem" was introduced in 1953 and "Crest" in 1956 and that both were advertised and promoted. Respondent denies for lack of information and belief the alleged percentage of the market of these products.

In connection with the second subparagraph, it is admitted that respondent

(*Turn to Page* 275)

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Physical Properties of Common Waxes

By T. C. Patton
Baker Castor Oil Co.
New York

A PROGRAM originally set up to evaluate a number of new synthetic waxes yielded extensive physical data on typical common waxes. Information resulting from this project is tabulated on the chart accompanying this presentation. Much of the information does not seem to be generally available in collated form. Some of the data may never previously have been established. All testing was done in the same laboratories and is therefore consistent in method of measurement.

To assess accurately certain physical properties of these waxes we modified some established test methods and developed some methods of our own to measure flexibility, clarity, etc. Procedures used to develop the information shown on the physical properties chart are described herewith:

Test Procedures Used

A. *Transition Temperatures*

1. Capillary Melting Point (A.O.C.A. Cc 1-25)
2. Drop Point (A.S.T.M. D 127-49, Modified)
3. Congeal Point (A.S.T.M. D 87-42, Modified)

The ASTM procedure was simplified in that no water bath was used. The wax was simply melted and then poured into a 25 ml pyrex test tube, filling it half full. A thermometer was immediately immersed in the molten wax to a depth of one-half the wax mass. The wax was then allowed to air-cool slowly and the temperature recorded every thirty seconds until a temperature hold of 2 minutes or more (or else a slight rise in temperature) was noted. The hold temperature or the maximum temperature rise was recorded as the congeal point.

B. *Density*

1. Solid Wax (A.S.T.M. D 71-52 Modified)

This test was modified in that a cylindrical ring (¾" diameter times ¼" deep) was used to mold the wax specimen rather than a ½" brass cubical mold as called for by the ASTM procedure. This test was also run in 32°F. water as well as at room temperature.

Experience indicates that density results are variable dependent on the size, shape and the method of casting the wax specimen. This variation is due to the internal voids formed during shrinkage on cooling and this void formation in turn leads to low density values. In order to minimize void formation and obtain wax densities nearer to their true values, the casting procedure was modified to give the flatter and somewhat smaller wax pellets, compared with the ½" cubes called for by the ASTM specification.

2. Molten Wax (A.S.T.M. 891-51 Westphal balance)

This test method was adapted to the density measurement of molten waxes by a minor apparatus modification. In calculating the density, a correction was made to compensate for the expansion of the glass pummet at the elevated temperatures employed.

C. *Shrinkage*

Per cent shrinkage of molten wax was calculated through a temperature range of from 300°F to 75°F and congeal point to 75°F using the following simple computation formulae shown below.

D. *Viscosity*

A Brookfield viscosimeter was used with an appropriate selection of spindles.

E. *Penetration*

(A.S.T.M. D 1321-55T)

F. *Flexibility*

(B.C.O. Method)

Wax films of four different thicknesses were drawn down on a Morest Hiding Power Chart Form 04 (a surface treated cardboard used by the paint industry for measuring the hiding power of coatings). The chart was preconditioned for one week in surroundings held at 75°F and 50% R.H. before application of the draw down films. The following film applicator clearances were used to give estimated wax film thicknesses as tabulated below:

Applicator Type	Applicator Clearance	Estimated Thickness
Baker	10 mils	7 mils
Baker	6	4
Bird	6	3
Bird	3	1.5

The selection of applicator thicknesses was entirely arbitrary. After overnight conditioning in a constant temperature room, the charts were then bent lengthwise over ½, 1, 2, 4, and 8 inch diameter mandrels.

$$\% \text{ Shrinkage} = 100 - \frac{100 \times \text{density liquid (congeal point)}}{\text{density of solid (75°F)}}$$

$$\% \text{ Shrinkage} = 100 - \frac{100 \times \text{density liquid (300°F)}}{\text{density solid (75°F)}}$$

TYPICAL PHYSICAL PROPERTIES OF COMMON WAXES
(COURTESY OF THE BAKER CASTOR OIL COMPANY)

TYPE		NAME	TRANSITION TEMPERATURE (°F)			DENSITY (gr/cm³)							SHRINKAGE OF MOLTEN WAX (%)		VISCOSITY OF MELT (POISE)			PENETRATION HARDNESS (100g/77°F/5sec) (1mm)	FLEXIBILITY (1)	CLARITY (2) (MIL)	SURFACE DESCRIPTION	TEXTURE OF SHAVING (3)
			MELTING POINT		CONGEAL POINT	32 °F	75 °F	100 °F	150 °F	200 °F	250 °F	300 °F	CONGEAL PT TO 75°F	300°F-75°F	200 °F	250 °F	300 °F					
			CAPILLARY	DROP POINT ASTM D-127																		
NATURAL WAXES		BAYBERRY	109-113	116	112	1.005	.990	.980	*.898*	*.876*	*.854*	*.831*	7.8	16.1	.11	.07	–	5	55	8	OLIVE DRAB OPAQUE	WAXY
		BEESWAX (YELLOW) COMMON	145-147	145	146	.989	.979	.972	*.843*	*.822*	*.802*	*.781*	14.0	20.2	.13	.08	–	18	100	18	LIGHT BROWN TRANSLUCENT, DULL	SOFT
		CANDELILLA	149-152	158	151	.994	.992	.991	.989	*.847*	*.830*	*.812*	13.3	18.2	.18	.11	–	1	20	16	LIGHT BROWN OPAQUE	WAXY
		CARNAUBA (NO.1 YELLOW)	181-185	192	178	.998	.986	.978	.960	*.845*	*.828*	*.809*	13.3	18.0	.32	.16	–	1	25	12	TAN OPAQUE	WAXY
		CARNAUBA (NO.3 REFINED)	177-180	186	177	.998	.986	.978	.962	*.843*	*.827*	*.809*	13.3	17.9	.44	.21	–	3	20	12	BROWN OPAQUE	WAXY
		JAPAN	114	120	110	1.004	.990	.982	*.892*	*.874*	*.857*	*.836*	8.2	15.5	.16	.11	–	19	45	16	WHITE DULL TRANSLUCENT	SOFT
		OURICURY	190.4	186	160	1.018	1.012	1.010	1.004	*.865*	*.850*	*.835*	13.4	17.5	–	–	.26	1	25	15	DARK BROWN OPAQUE	BRITTLE
		SPERMACETI	114-116	116	120	.947	.939	.931	*.840*	*.813*	*.785*	*.761*	9.3	18.9	.07	.05	–	12	60	18	WHITE, CRYST TRANSLUCENT	WAXY
		SUGAR CANE (DOMESTIC REFINED)	166-170	170	155	1.061	1.027	1.004	–	*.903*	*.888*	*.866*	9.8	15.7	1.79	.79	–	1	25	15	DARK BROWN OPAQUE	BRITTLE
		MONTAN (DURMONT 500)	188	186	NO TEMP. HOLD	1.010	.997	.989	.977	*.801*	*.782*	*.762*	–	23.5	–	.07	.06	9	60	11	LIGHT BROWN OPAQUE	WAXY
SYNTHETIC WAXES	HYDROGENATED	CASTORWAX® (OPAL WAX®)	186-188	186	164	1.034	1.021	1.015	1.000	*.897*	*.884*	*.865*	10.3	15.3	.24	.16	–	2	5	19	WHITE TRANSLUCENT	BRITTLE
		CASTORWAX MP80	170-174	181	155	.990	.984	.980	.972	*.898*	*.886*	*.863*	7.6	12.3	.31	.15	–	9	25	17	WHITE DULL TRANSLUCENT	WAXY
		CASTORWAX MP 70	152	172	142	.984	.979	.973	.967	*.903*	*.887*	*.865*	5.3	11.6	.30	.15	–	42	75	38	WHITE DULL TRANSLUCENT	SOFT
		PARICIN® 32	123	140	118	1.044	1.019	1.003	*.903*	*.883*	*.860*	*.848*	9.8	16.8	.33	.15	–	55	65	7	WHITE DULL TRANSLUCENT	SOFT
		PARICIN 1	123-125	124	122	1.019	1.016	1.011	*.882*	*.863*	*.846*	*.824*	12.3	18.9	.07	.05	–	19	60	11	WHITE DULL OPAQUE	WAXY
		PARICIN 9	125	122	114	1.043	1.032	1.028	*.930*	*.906*	*.880*	*.858*	8.6	16.8	.15	.08	–	12	40	19	WHITE OPAQUE	WAXY
		PARICIN 13	147-150	152	134	1.059	1.052	1.049		*.925*	*.907*	*.886*	8.4	15.8	.34	.15	–	15	45	17	WHITE DULL TRANSLUCENT	WAXY
		PARICIN 15	145-149	140	134	1.027	1.014	1.007	1.002	*.909*	*.889*	*.856*	6.9	15.6	.19	.10	–	5	20	22	WHITE OPAQUE	BRITTLE
	AMIDES	ACRAWAX C	284-286	294	278	.989	.984	.981	.978	.974	.970	*.880*	14.4	15.5	–	@ 350° .08	@ 390° .06	1	0	11	LIGHT TAN DULL OPAQUE	BRITTLE
		ARMID HT	201-204	217	208	.989	.975	.968	.951		*.819*	*.796*	16.5	18.4	–	.08	.05	8	80	7	WHITE DULL TRANSLUCENT	WAXY
		FLEXRICIN® 115	115	118	101	1.010	.995	.985	*.943*	*.924*	*.907*	*.888*	3.1	10.6	.48	.18	.095	90	100	15	YELLOW DULL	SOFT
		FLEXRICIN 185	183-188	185	177	1.019	1.017	1.014	1.011	*.901*	*.889*	*.877*	9.4	14.5	–	.37	.16	19	70	5	LIGHT BROWN DULL OPAQUE	WAXY
		PARICIN 220	217-220	219	212	1.051	1.049	1.044	1.039	1.032	*.898*	*.877*	13.3	16.4	–	.23	.10	1	30	25	TAN OPAQUE	BRITTLE
		PARICIN 285	282-284	290	276	1.028	1.020	1.016	1.008	.998	.990	*.863*	14.6	15.4	–	@ 350° .08	@ 390° .06	1	35	6	LIGHT BROWN OPAQUE DULL	WAXY
	CHLORINATED	CHLOROWAX 70	(GUMMY - NO FLOW)		239	1.591	1.590	1.588	1.585	1.583	(DECOMPOSES) NO VALUES		–	–	–	–	–	0	0		BLACK DULL OPAQUE	BRITTLE
		HALOWAX 1001	199-204	200	188	1.597	1.590	1.588	1.580		*1.440*	*1.407*	9.3	11.5	.08	.06	–	6	70	20	WHITE DULL TRANSLUCENT	WAXY
	MISCELLANEOUS	CARBOWAX 4000	134-138	136	124	(WATER SOLUBLE 1.204 LITERATURE VALUE)				*1.073*	*1.049*	*1.024*	–	15.0	1.17	.89	–	5	10	14	WHITE CRYST TRANSLUCENT	WAXY
		STEARIC ACID (NEO FAT 18)	152-156	160	152	.949	.935	.927	.910	*.863*	*.825*	*.793*	8.5	15.2	–	.05	.02	13	60	6	WHITE DULL TRANSLUCENT	BRITTLE
		HYDROXYSTEARIC ACID (BAKERS HSA)	163-166	168	166	1.024	1.018	1.013	1.005	*.882*	*.864*	*.845*	11.8	17.0	.21	.11	–	8	55	17	LIGHT TAN DULL TRANSLUCENT	WAXY
PETROLEUM WAXES	PARAFFIN	125/127	122-123	125	125	.916	.886	.869	*.782*	*.763*	*.744*	*.724*	11.1	18.3	.06	.04	–	20	90	40	WHITE DULL TRANSLUCENT	SOFT
		135/137	136-138	140	138	.928	.922	.920	*.791*	*.769*	*.746*	*.726*	13.4	21.2	.05	.04	–	14	60	51	WHITE DULL TRANSLUCENT	WAXY
		138/140	138-140	140	136	.919	.907	.900	*.785*	*.765*	*.746*	*.725*	13.7	20.1	.05	.04	–	12	50	33	WHITE DULL TRANSLUCENT	WAXY
	MICRO-CRYSTALLINE	W 165/170	152-156	165	142	.931	.922	.916	.903	*.803*	*.785*	*.766*	10.4	16.9	.20	.10	–	23	100	18	WHITE DULL TRANSLUCENT	SOFT
		A 165/170	154-158	165	140	.938	.933	.931	.929	*.806*	*.788*	*.770*	11.2	17.4	.20	.11	–	25	100	28	YELLOWISH DULL TRANSLUCENT	SOFT
		175 LIGHT	163-172	176	171	.948	.931	.921	.905	*.801*	*.784*	*.771*	12.4	17.2	–	.10	–	16	100	38	YELLOWISH DULL TRANSLUCENT	SOFT
		W 190/195	190-194	208	186	.952	.942	.937	.922	*.789*	*.775*	*.757*	15.9	19.6	.26	.12	–	3	45	14	WHITE DULL TRANSLUCENT	WAXY
		A 190/195	186-192	203	186	.956	.950	.948	.942	*.789*	*.776*	*.760*	16.6	20.0	.19	.12	–	3	60	15	TAN DULL TRANSLUCENT	WAXY

(3) TEXTURE RATING
BRITTLE : CHIPS AND SHATTERS
WAXY : COHERENT FLAKING
SOFT : CONTINUOUS (NO FLAKING)

(1) 100 = VERY FLEXIBLE
0 = VERY BRITTLE

ITALIC FIGURES REFER TO MOLTEN STATE

(2) MEASURED IN TERMS OF FILM THICKNESS AT A POINT WHEN TYPEWRITER PRINT JUST BECOMES ILLEGIBLE WHEN VIEWED THROUGH FILM

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Wax films showing signs of definite cracking were considered as failing and given a rating of O. If no crack developed at any point, the film was considered as passing and given a rating of 10. Doubtful or intermediate film performance was rated as 5. After running the four film thicknesses over the 5 mandrels, the 20 ratings were totalled and divided by 2 to give a

(*Turn to Page 275*)

SEASON'S GREETINGS



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Indian Soap Perfuming

(*From Page 54*)

	Parts
Lavender oil, French	30
Spike lavender oil, Spanish	10
Isoamyl salicylate	5
Geranium oil, Tanganyka	5
Linalyl acetate	20
Bornyl acetate	5
Musk xylol	5
Patchouli oil	3
Galbanum resin	3
Oakmoss concrete	2
Cedarwood oil	12
	100

In the high proportion commonly used in Indian toilet soaps (one to 2.5 per cent) such a perfume would be far too expensive. A low priced medium heavy type 'rose' perfume for soap in the Indian market might have the following composition:

	Parts
Diphenyl ether	35
Terpineol	30
Phenylethyl alcohol	15
Geranyl acetate	5
Isoeugenol	2
Hydrocinnamic alcohol	2
Methylphenyl acetaldehyde	4
Ethyl vanillin	2
Benzyl acetate	5
	100

Some of the higher priced Indian toilet soaps are perfumed to compete in foreign markets and are being exported. Per capita consumption in the domestic market is only one and one half pounds a year. S. Dutt, *Indian Soap Journal*, July 1957, pp. 3-9.

★

New Emulsifiers

Two new emulsifiers for use in the manufacture of insecticides were introduced recently by Emulsol Chemical Corp., Chicago, a division of Witco Chemical Co., New York. Tradenamed "Emcol H-900," and "Emcol H-902," the two new products may be used in a number of insecticide formulas.

★

Chemway Sales Increase

Chemway Corp., Mountain View, N. J., reported a substantial increase in sales in the third quarter of 1957. Net sales totaled $1,729,641, a gain of six per cent from the $1,628,510, in the corresponding period of the previous year. Income remained approximately at the 1956 level, totaling $21,123, equal to share earnings of 2 cents. This compared to $21,115 and 2 cents last year.

In the first nine months of 1957, however, Chemway announced that sales fell slightly to $5,176,057 from $5,381,292 a year ago. Income in the period declined from $203,135, equal to share earnings of $1.95, in 1956, to $105,206 and $1.01.

Bar Detergents

(*From Page 52*)

pressions of lather and cleaning action.

Hardness and Solubility. Hardness and solubility are significant properties which can be measured and are related to observations in both the bar forming process and the hand washing tests.

Hardness was measured with a Shore Durometer,[8] Type A, following a procedure used to estimate the approximate hardness of rubber (1). The immediate gauge reading and the reading at 15 seconds of contact, when further indentation could occur, are recorded in Table II.

Comparative solubility and foam production was conveniently measured by use of the Deter-Meter[8] (16), in a manner somewhat similar to the use of other instruments to measure shampoo performance (3) and lather quickness (4). The experimental detergent bar, placed in the cage of the Deter-Meter, with screens set at minimum clearance, and medium stroke length (two inches), plunged repeatedly (100 strokes, 60 cycles per minute) into 3500 ml. of laboratory tap water (80 p.p.m.) at 110° F. The detergent bar broke the water surface with a splashing action and the number of strokes required to generate foam covering the aqueous surface within the cage was a measure of foam production. The detergent bar was air dried overnight and the weight loss was recorded as a measure of solubility.

Dish Life. The comparative "dish life" or "sloughing" tendency was estimated in a test similar to that described by Toof (13). The detergent bar was supported in 1/8 inch of hard water (300 p.p.m), resting on two 1/16 inch bent stainless steel rods. After 10 minutes of contact the appearance of the wetted under-surface was an indication of the behavior to be expected in use, when the wet detergent bar rests in the soap dish.

Water Content. Although the detergent bar compositions were prepared with an initial water content of about 12 per cent it was found that much of this was lost in bar formation, particularly in the milling operation. The amount of water in the detergent bar, which can be regulated somewhat by the length of time in the milling operation, but was usually less than five per cent, influences hardness and solubility. This is shown in Table III in the case of the detergent bar C-3 of Table II. As might be expected a greater water content decreases hardness and increases solubility.

Irritant Tests. Guinea pig skin and rabbit skin and eye tests for irritation and sensitization were carried out by Floyd De Eds and associates[9] on the detergent bars A, C-1, and C-2 of Table II and the salts from which they were formed. Detergent A produced a minor degree of irritation in the guinea pig skin tests, which, however, was not greater than that caused by a commercial hand soap. No sensitization occurred, and rabbit skin and eye tests were negative.

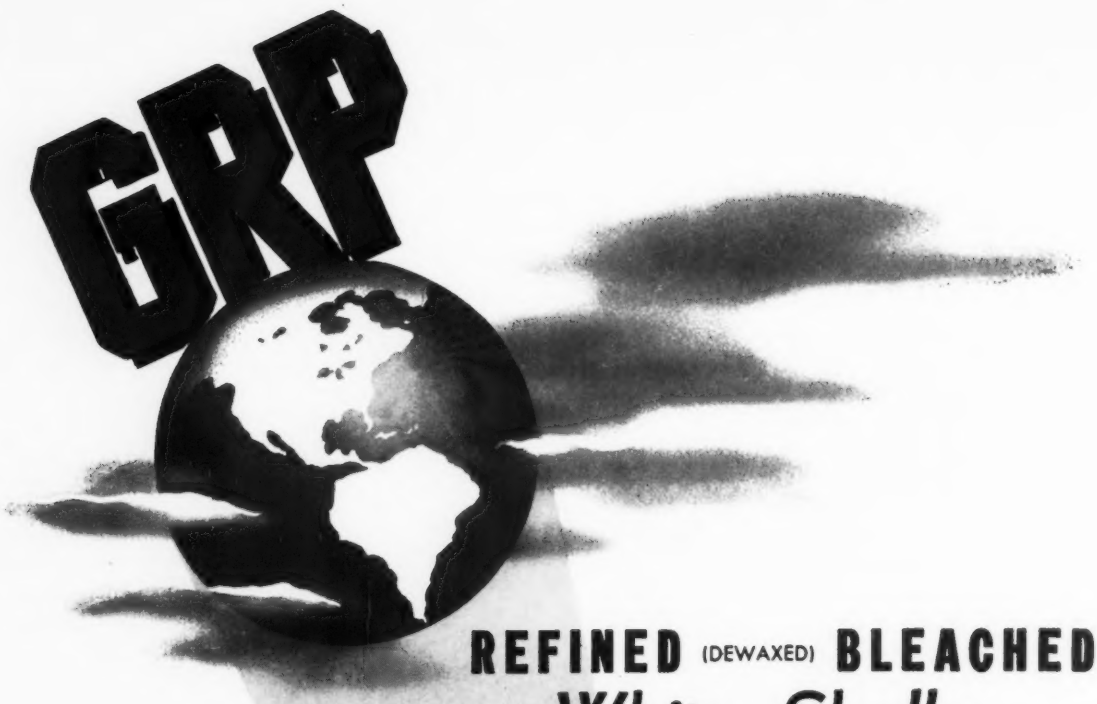
The results of the animal tests appear to be encouraging, but they are preliminary and clinical tests would eventually be required.

Discussion

THE data of Table II lists the properties of representative detergent bars of types A, B and C. Obviously many other variations in composition are possible. The com-

[8]Reference to a manufactured instrument does not imply recommendation by the U. S. Department of Agriculture over similar instruments not mentioned.

[9]Pharmacology Section, Western Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture, Albany, Calif.



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bination of the neutral sodium salt and an acid substituted ammonium salt (A) gave a reasonably satisfactory detergent bar which was however somewhat too soft and too readily soluble. Combinations of two kinds of acid salts (the monosodium or monoammonium salt and an acid substituted-ammonium salt, (B) also gave good detergent bars but this type seems to produce a somewhat thin and non-persistent lather.

For convenience and from practical considerations most of our experiments concerned Type C compositions based on the readily available monosodium salt, to which it was only necessary to add varying amounts of ammonia or amines. A purified monosodium salt was used as described above, but it may be possible to use a monosodium salt formed directly from the sulfonation reaction without isolation of the *a*-sulfonated acid.

The hardness, solubility and foam production, lather characteristics, and dish life correlate in a general way. An initial hardness of about 60-80 and a weight loss of of about one to four seems to indicate the best performance. Toilet soap and present commercial detergent bars have values in this range. The "flash" lather is a readily formed attractive lather with larger bubbles than is usual for soap. The "thick copious" lather is readily formed and more persistent, with smaller bubbles.

The properties conferred by salt formation with ammonia, ethylamine, ethanolamine, or triethanolamine are indicated in Table I and shown more explicitly in Table II. Partial neutralization of the carboxyl group with ammonia (C-1, Table II) gave a hard, shiny, brittle bar with poor milling and molding properties. It was not easily soluble but produced a distinctive thick lather. Neutralization with either triethanolamine (C-3), isopropanolamine, or triethylamine rather than ammonia tends to produce a softer and easily soluble bar. Neutralization with either ethanolamine (C-2) or ethylamine, rather than with ammonia or triethanolamine, tends to give quite satisfactory detergent bars with intermediate properties. The best detergent bars of Table II are believed to be C-4 and C-5, with properties conferred by both ammonium and substituted-ammonium salt formation.

The Type C compositions are based on partial neutralization of monosodium or monoammonium salts with ammonia or amines, or they may be considered mixtures of an acid salt and a neutral mixed salt (such as sodium ammonium *a*-sulfostearate, Table I). Partial neutralization rather than complete neutralization is considered to result in some economy, greater plasticity, and an acid pH near that of the human skin. In some cases, however, a detergent bar which is entirely a neutral mixed salt may have some desirable properties. This appears to be true of the sodium ethanolammonium salt, $RCH(SO_3Na)CO_2NH_3C_2H_4OH$.

Summary and Conclusion

EXPERIMENTAL detergent bars were made based entirely on selected salts of *a*-sulfonated saturated tallow acids. Hardness, solubility and foam production, lather characteristics, and dish life were found to correlate in a general way with detergent composition. Some compositions appear to be worth further investigation and modification for the production of finished detergent bars. The general conclusions are as follows:

1. Attractive detergent bars can be made from the monosodium of monoammonium salt ($RCH(SO_3M)CO_2H$ by partial neutralization of the carboxyl group with an amine or mixtures of amines.

2. Hardness and solubility can be controlled by choice of the amine and the extent of the partial neutralization. Triethanolamine, isopropanolamine, and triethylamine tend to produce softer and more soluble bars than do ethanolamine or ethylamine.

3. Hardness and solubility are also influenced by water content. A relatively low water content tends to produce a somewhat harder and less soluble bar.

4. Representative experimental detergent bars with good general characteristics had the following compositions, in mole per cent, on the anhydrous basis: (1) 72 monosodium, 20 sodium ammonium and 8 sodium triethanolammonium salts; (2) 85 monoammonium and 15 ammonium triethanolammonium salts.

Acknowledgment

WE are pleased to acknowledge the advice and assistance of Leopold Safrin through which it was possible to form detergent bars in a plodder and stamping machine. We are indebted also to Floyd De Eds and associates for the pharmacological tests on the detergent bars and the component salts. This considerable assistance is gratefully acknowledged.

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Cardis Polymer #8	205—210	1—2	3—5	7—10	24—28	Polymer
Cardis One†	195—200	1—2	4—5	12—16	55—65	Emulsifiable Petroleum Wax
Cardis 314®	184—189	4—6	4—5	13—16	45—55	Emulsifiable Petroleum Wax
Cardis 319®	180—185	5—7	4—6	18—20	65—70	Emulsifiable Petroleum Wax
Cardis 320®	180—185	5—7	4—5	28—30	75—80	Emulsifiable Petroleum Wax
Cardis 262®	195—200	3—5	Brown	14—17	40—45	Specially Processed Petroleum Wax
Polymekon*	195 MIN.	0—3	Yellow	0—0	0—0	Specially Processed Petroleum Wax
Fortex®	190—200	3—5	2½—3½	0—0	0—0	Microcrystalline Hard & Plastic
Mekon® B-20	190—195	3—5	Brown-Black	0—0	0—0	Microcrystalline Hard & Brittle
Mekon® A-20	190—195	3—5	Amber-6 Max.	0—0	0—0	Microcrystalline Hard & Brittle
Mekon® Y-20	190—195	3—5	Yellow-3-3½	0—0	0—0	Microcrystalline Hard & Brittle
Warco® Wax #5	158-160	9-10	Ivory	—	—	Specially Processed Petroleum Wax
Warco® Wax 180 White	180—185	4—7	White	0—0	0—0	Microcrystalline Hard & Brittle
Warco® Wax 180 Brown	180—185	4—7	Brown	0—0	0—0	Microcrystalline Hard & Brittle
Warco® Wax 170-A Yellow	170—175	10—15	Yellow 1-2	0—0	0—0	Microcrystalline Plastic
Warco® Wax 170-A Brown	170—175	10—15	Brown	0—0	0—0	Microcrystalline Plastic
Warco® Wax 150-A Yellow	145—155	15—20	Yellow 1-2	0—0	0—0	Microcrystalline Plastic
Warco® Wax 150-A Brown	145—155	15—20	Brown	0—0	0—0	Microcrystalline Plastic
Warcosine®	150—155	15—20	White	0—0	0—0	Microcrystalline Plastic
Paraffin	136—138	FULLY REFINED				Crystalline
Cane Wax 500	171—176	3 Max.	Light Brown	25—35	55—70	Vegetable Wax
Cane Wax 517-711	171—173	2 Max.	Black	—	—	Vegetable Wax
Cane Wax 700	169—174	1.0—1.5	Light Brown	25—30	70—90	Vegetable Wax

† Pat. No. 2,471,102
* Patent Applied For.

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Chart II. Recommended Usage of Materials—Resilient Surfaces and Sealed Wood

Type of Surface	Soaps	Synthetic Cleaner	Alkaline Cleaner	Abrasive Cleaner	Solvent Emulsion	Acid Cleaner	Comments
							(Numbers do not indicate preference but are for reference only.)
Asphalt Tile	1	2	3				1. Removal of wax or resin finishes. 2. Routine light mopping. 3. Removal of heavy wax or resin accumulation.
Rubber	1	2	3				1. Removal of wax or resin finishes. 2. Routine light mopping. 3. Removal of heavy wax or resin accumulations.
Linoleum	1	2	3				1. Removal of wax or resin finishes. 2. Routine light mopping. 3. Removal of wax or resin finishes.
Vinyl	1	2	3				1. Removal of wax or resin finishes. 2. Routine light mopping. 3. Removal of wax or resin finishes.
Cork	1	2					1. Removal of wax finishes. 2. Routine light mopping.
Sealed Wood	1	2					1. Removal of wax or resin coatings. 2. Routine light mopping.

Synthetic Detergents

(*From Page* 60)

A steady trend downward appears under sulfonated oils. These are being replaced by more specific materials such as the butyl and propyl sulfo oleates, etc.

The production of dodecylbenzene sulfonate, while still showing some growth, seems to be approaching a plateau. Since this is one item that follows retail sales closely, it follows that the ratio of synthetic to soap production may also be approaching a plateau.

Figure 1 gives the approximate per cent of the market held by detergents in 1952, 1955 and 1957. Extra-polated to 1960, the curve would appear to indicate a levelling off at about 20 per cent soap and 80 per cent synthetic. The present ratio is 70/30.

As of to-date, synthetics have not made great headway into the toilet bar field. If and when they do, and the writer feels that such a move is imminent, the detergent ratio will probably once more take a rather rapid move upward.

Cleaning Materials

(*From Page* 58)

manufacturers have issued recommendations as have the manufacturers of cleaning compounds. These recommendations are often all-inclusive and sometimes contradictory. Without commenting on the validity of these claims and recommendations, and without examining the supporting data, the accompanying charts cover general types of surfaces encountered in building maintenance and list the types of cleaners that can be safely employed in the various operations. Preferences of the authors in each instance appear under "comments".

—★—

P & S Has New Musk

A new macrocyclic musk suitable for incorporation in soap was introduced recently by Polak & Schwarz, Inc., 667 Washington Street, New York 14. Designated "Musc 781" the compound is said to have good fixative properties, to exalt the top notes and make its presence felt at all stages of evaporation. An eight page descriptive booklet is available.

Chart III. Recommended Usage of Materials—Miscellaneous Surfaces

Type of Surface	Soaps	Synthetic Cleaner	Alkaline Cleaner	Abrasive Cleaner	Solvent Emulsion	Acid Cleaner	Comments
							(Numbers do not indicate preference but are for reference only.)
Painted	1	2				3	1. Routine washing or mopping. 2. Routine washing or mopping. 3. Special purpose compounds only for washing painted metal equipment.
Porcelain	1	2	3	4		5	1. Routine washing. Good rinse required. 2. Routine washing. 3. Routine washing. 4. Removal of stubborn stains. Periodic use only. 5. Removal of lime encrustations in commodes.
Asphalt	1	2	3				1. Light duty degreaser. 2. Light duty degreaser. 3. Degreaser.
Bronze				1		2	1. Periodic cleaning and polishing. 2. Damp wiping (lemon oil).
Aluminum		1	2	3		4	1. Routine washing. 2. Routine damp wiping. Properly buffered compounds only. 3. Fine abrasive — Periodic use only. 4. Routine damp wiping. Buffered compounds only.
Stainless Steel		1				2	1. Damp wiping. 2. Dilute acid detergents.

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growth aerosols point the way to volume sales

For packaging drugs and pharmaceuticals the aerosol offers some outstanding advantages: The sealed container prevents contamination of ingredients, spilling is eliminated, and rapid uniform application of medicament is possible. In addition, a fine mist can be readily formed for inhalation purposes.

Aerosol pharmaceuticals have a really bright potential for future growth. Production has grown steadily to over two and a quarter million units in 1956, and the growth rate today is such that about four and a half million units are predicted for 1957.

Du Pont's consumer survey covering burn preparations, antiseptics and bandages showed a large total market for these pharmaceutical products in all forms of packaging, but a striking lack of awareness of the aerosol. Yet where housewives *had* tried these pharmaceuticals in aerosol form, they indicated a definite preference for the aerosol method of application. Why not package your pharmaceutical product for profit in an aerosol?

Send for your free copy of Du Pont's survey report on the market for aerosol pharmaceuticals. Write E. I. du Pont de Nemours & Co. (Inc.), "Freon" Products Division 239, Wilmington 98, Delaware.



About fifty pharmaceutical items packaged in aerosol containers are now on the market, and several more are in the development stage. These include such products as inhalants for asthma relief, burn sprays, poison-ivy sprays, and antiseptics, anesthetics and antibiotics for topical applications.



For help when you package for profit call in a custom aerosol filler

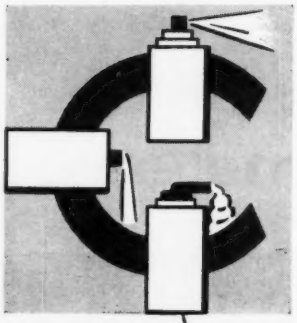
You can get help in planning for your aerosol product, and you don't need experience or expensive equipment. Just call on a custom filler. He can help in many ways—product evaluation, formulation, testing, container selection and labeling, filling, packing and shipping. When you select a filler, be sure he uses Du Pont Freon* propellents for your product. With "Freon" you get a propellent backed by the industry's most comprehensive technical and marketing services and more than 26 years of Du Pont manufacturing leadership. For names of qualified fillers near you, write to E. I. du Pont de Nemours & Co. (Inc.), FREON® Products Division 1312, Wilmington 98, Delaware.

**Freon and combinations of Freon- or F- with numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon propellents.*

FREON® *propellents*

DU PONT
REG. U.S. PAT. OFF.

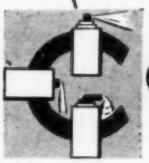
BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY



Experience*

in Aerosol Filling and Product Development

* PIONEERS... since 1946



CONTINENTAL
Filling Corporation

MAIN OFFICE: DANVILLE, ILL. • N.Y. OFFICE: 527 LEXINGTON AVE.

COLOGNES • HAIR SPRAYS • INSECTICIDES • DEODORANTS • SHAVE CREAMS • CLEANERS



Packaging...

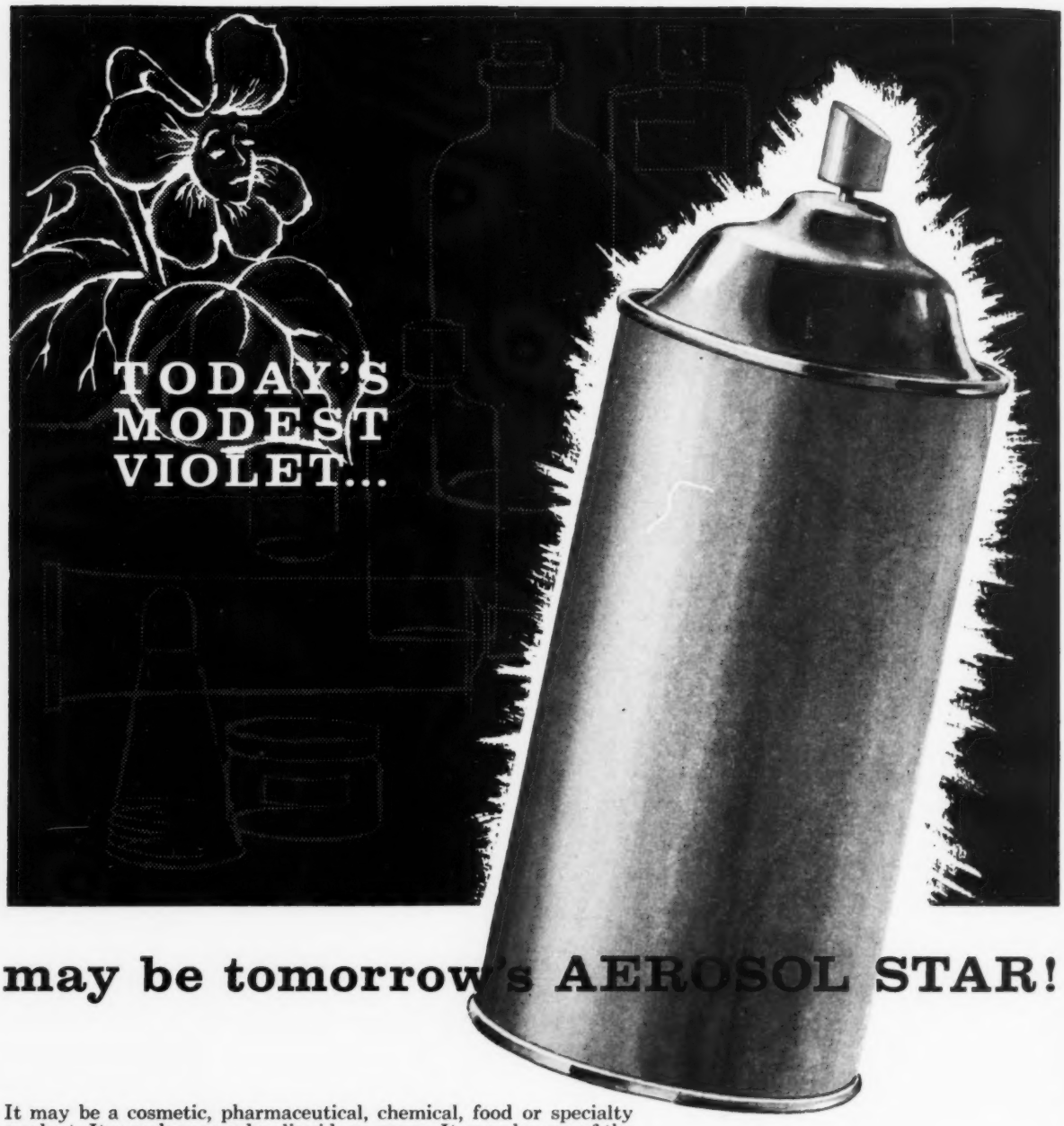
AEROSOLS · LIQUIDS · PASTES · POWDERS

"Best of Show" award in CSMA's 1957 Aerosol Package Contest was shared for the first time this year by Rexall's "Stag" shave cream packaged in a Crown "Spra-tainer" and Helena Rubinstein's "Five O'Clock" perfume mist.

Automotive Chemicals
Cleaners
Detergents
Deodorants
Disinfectants
Floor Products
Insecticides
Laundry Bleach
Metal Cleaners
Moth Products
Polishes
Shampoos
Shave Products
Soaps
Liquid Starch
Toiletries
and other
Chemical Specialties

A market for over 28 billion packages annually



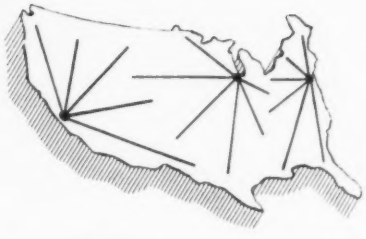


may be tomorrow's AEROSOL STAR!

It may be a cosmetic, pharmaceutical, chemical, food or specialty product. It may be a powder, liquid, or cream. It may be one of the regular products in your line. Perhaps it is an undeveloped formula or the mere "germ of an idea" in some person's mind. But the odds are that some product that is today unspectacular in its present package, may become one of tomorrow's fastest selling items when packaged as an *aerosol*.

Today in G. Barr & Company's laboratories, a continuing program of imaginative and persistent research is being carried on. All focused upon the development of new and better aerosol products and in further perfecting the Private Label aerosols we now manufacture.

We will be pleased to make available to you, the facilities and experience we have gained as America's leading Private Label Aerosol producers, to help you ascertain whether your idea, undeveloped formula or present product has an aerosol potential.



THREE
strategically located plants:
NEW YORK
CHICAGO
LOS ANGELES

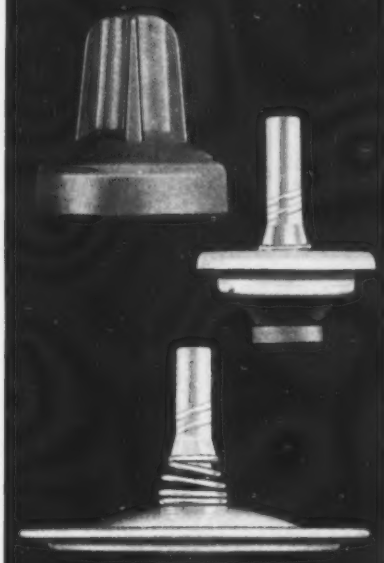
G. BARR & COMPANY

3601 S. Racine Avenue • Chicago 9, Illinois

Clayton

"NOZZLE DOWN"

dispensing valves and covers



ALL VALVES AVAILABLE WITH COLOR-ENAMELED MOUNTING CUPS. HIGHEST QUALITY, CHEMICAL AND CORROSION-RESISTANT INTERIOR COATINGS!



DIP TUBE VALVE

The best available! Dispenses with forward or downward push. Gasses and dispenses uniformly. Pressure fills at highest speeds. No metal valve parts exposed to product.

Clayton

CORPORATION

NATURALLY BETTER FOR ALL FOAM, CREAM AND LIQUID PRODUCTS . . .

ALSO MANY SPRAY PRODUCTS!

Better in use — Clayton NOZZLE DOWN Valves dispense pressure-propelled products in the most natural and efficient way . . . pointing the product where you want it, eliminating misses and messes! Functionally dependable, they never clog . . . always stay intact. Flow rates to meet specific product requirements.

Better in production — they assure uniform gassing . . . pressure-fill at highest speeds with all types of propellants including nitrogen. Completely assembled — no parts to put together in your plant!

Better in shipment — components can't come apart! Your product stays safe with the Patented Screw Valve Covers . . .

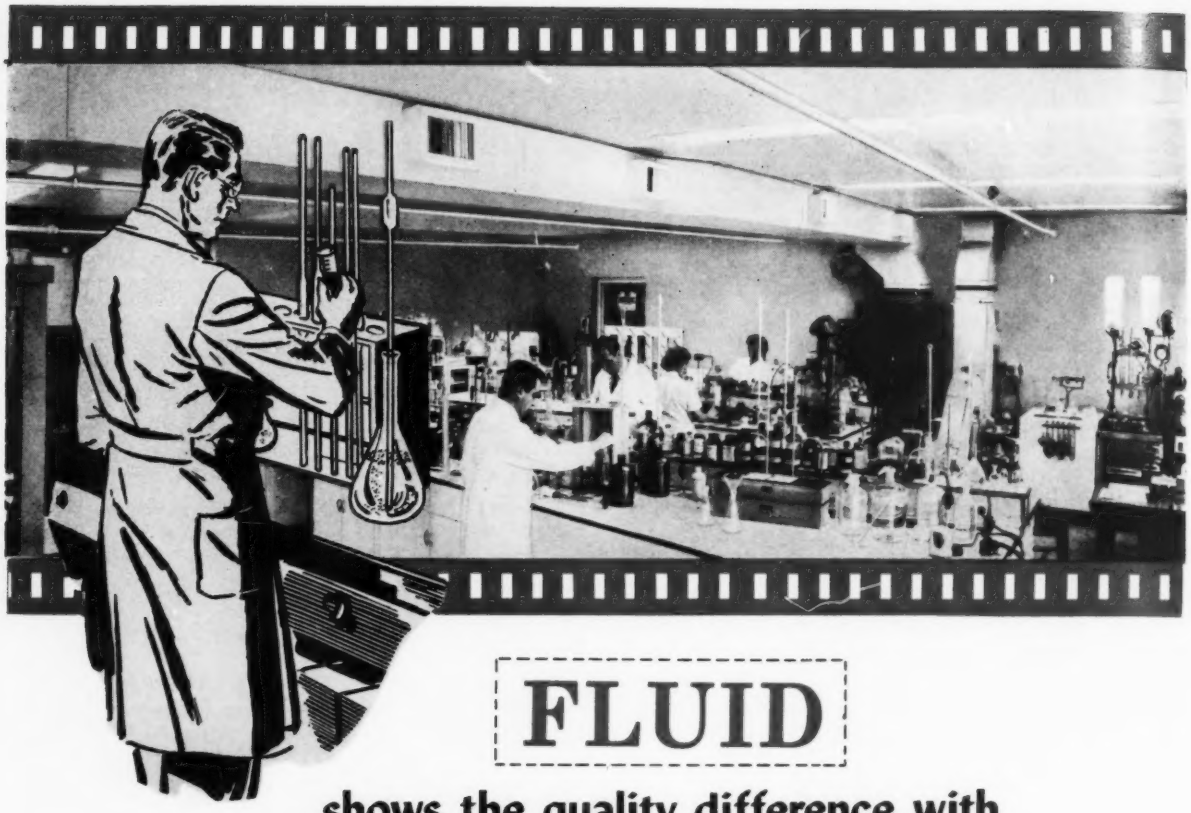
THE MOST POSITIVE-ACTION COVERS ON THE MARKET!

Better in every respect — for shaving creams, hand creams, shampoos, suntan creams, rug cleaners, upholstery cleaners, etc . . . Clayton NOZZLE DOWN Valves are the most accepted, preferred and consistently bought valves for foam products . . . the most effective for all cream and liquid products and many spray products.

TIME TESTED AND PROVED
ON HUNDREDS OF MILLIONS OF CONTAINERS!



4205 FOREST PARK BOULEVARD • SAINT LOUIS 8, MISSOURI
WRITE, PHONE OR WIRE US FOR COMPLETE DETAILS!



FLUID

shows the quality difference with laboratory controlled packaging!



To measure a top-notch contract packager, not only are production facilities important but even more vital are laboratory facilities and experienced personnel on which quality control depends.

At Fluid you get full **Laboratory** Controlled Packaging. In our extensive laboratory with the latest equipment and skilled specialists, your aerosol, liquid, and plastic tube filling are completely safeguarded.

Picture Fluid's Laboratory for your own product research, production, and packaging . . . you'll see why more and more companies use Fluid's Controlled Packaging . . . it is competitively priced for real economy.



1. **PERSONNEL** skilled and experienced in handling development and production problems.
2. **FACILITIES** that are not surpassed by anyone in the contract packaging field.
3. **EQUIPMENT** for quality control checks every step of the way from product development through packaging.

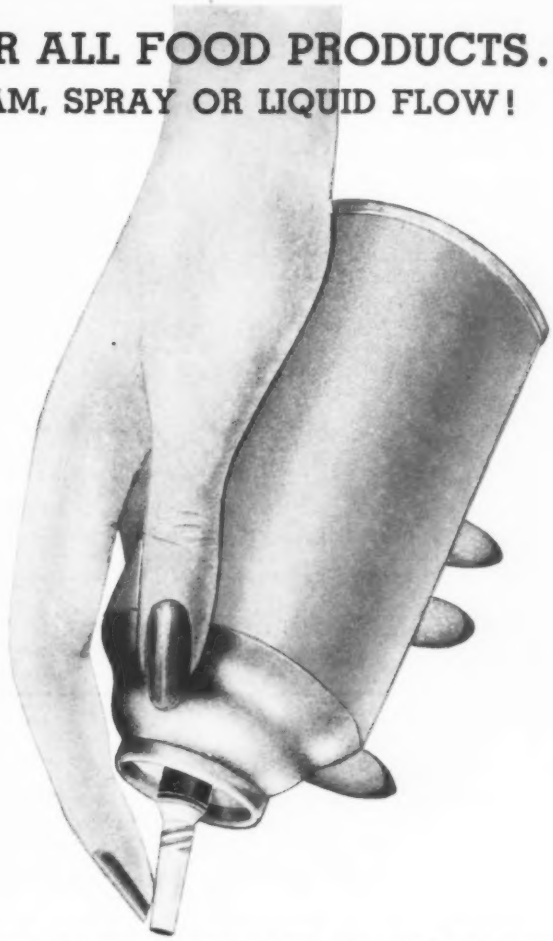
"First in Contract Packaging"

FLUID CHEMICAL CO., INC.
FOUNDED 1921
880 MT. PROSPECT AVE., NEWARK, N. J.

Services: Aerosols in glass and metal. Liquid filling in metal, glass, and plastic containers. Product Research and Development.

NATURALLY BETTER FOR ALL FOOD PRODUCTS...

PRESSURE-PROPELLED FOAM, SPRAY OR LIQUID FLOW!



Getting right down to it...

The Clayton NOZZLE DOWN Valve serves your pressure-propelled product right . . . right down where you want it . . . employing the most natural and effective method of food dispensing.

So naturally it's the food dispensing valve preferred and used by more men, women and children than any food-type valve in America! And naturally more and more manufacturers are relying on Clayton's vast knowledge and experience for help in developing food aerosols . . . are adopting the non-clogging, smooth-dispensing valve TIME TESTED AND PROVED ON HUNDREDS OF MILLIONS OF CONTAINERS!

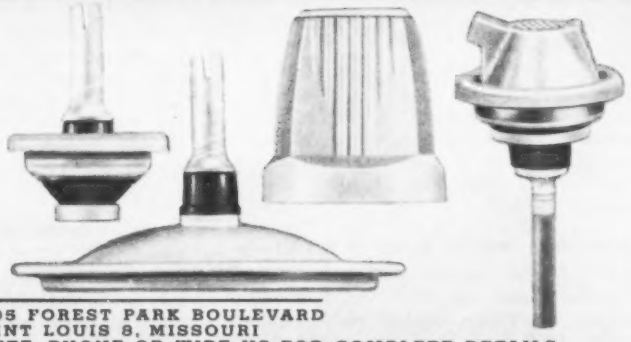
With the ever-increasing trend toward pressure-propelled foods . . . and the need for controlled flow rates to meet specific product requirements . . . countless Clayton NOZZLE DOWN dispensing valves will be used for flavorings, sauces, condiments, salad dressings, spreads, frostings, toppings, shortenings, syrups . . .

FOR ANY TYPE OF FOOD REQUIRING FOAM, SPRAY OR LIQUID FLOW!



CLAYTON VALVES ARE CHEMICAL AND CORROSION-RESISTANT!

All Clayton Nozzle Down and Dip Tube Valves are available with color-enameled mounting cups. Highest quality chemical and corrosion-resistant interior coatings. All Clayton valves pressure-fill at highest speeds, assure uniform gassing and dispensing. All stay intact in shipment and use. Nozzle Down Valves are completely assembled.



Clayton

CORPORATION

4205 FOREST PARK BOULEVARD
SAINT LOUIS 8, MISSOURI
WRITE, PHONE OR WIRE US FOR COMPLETE DETAILS

WE PREDICTED...
WE PIONEERED...
WE'RE PRODUCING...

Polysols®

the revolutionary approach to pressure packaging that now opens up a new and tremendous market to

ANY PRODUCT THAT FLOWS

Polysols are now in production

Connecticut Chemical opens the door to thousands of manufacturers who are seeking new markets, broader consumer acceptance, and long-range profits. In POLYSOLS lie the pressure packaging future for literally unlimited products *already on the market*—and many more *still to be born.*

POLYSOLS, developed by Connecticut Chemical, are a revolutionary new concept in pressurized packaging which has made it possible to package in "pushbutton" form almost any cosmetic, drug, pharmaceutical or household product *that flows,* or *can be sprayed.*

In the drug field alone the application of POLYSOLS for gargles, depilatories, toothpastes, liniments, lotions, ointments and body rubs are virtually limitless.

Aerosol field was limited in scope

Until now, aerosols have been confined in their applications because refrigerant gases were incompatible with many products, many chemicals, many containers, or unacceptable for internal use.

Examples: refrigerant propellants couldn't be used for baby oils that must be expelled at room temperature... products to be used internally as mouth washes and nasal sprays... highly viscous materials such as toothpastes... or products with water base emulsions, such as furniture polish.

Packaging revolution pioneered by Polysols

The POLYSOL concept, packaged in highly diversified ways, was introduced to industry during a press conference at the Waldorf-Astoria in May 1956. Since then even greater strides have been made in research and development.

Many gases not heretofore used in pressurized packaging including nitrogen, CO_2, nitrous oxide and other rare gases — *were adapted depending upon the individual requirements of each particular product.*

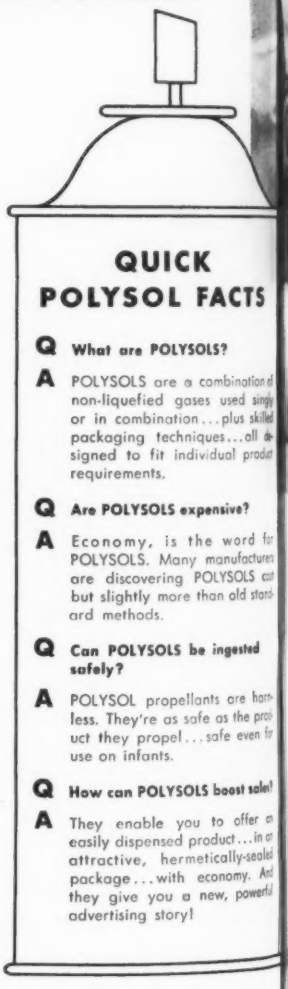
Just as important, our laboratories worked with the assistance of valve and container companies in developing further refinements in the design of valves, siphon tubes, internal coatings and containers. This cumulative technical pioneering was responsible for many great POLYSOL achievements.

Improve your product—or create new ones!

Consumers have long recognized the enormous advantages of pressurized products. Their acceptance has been truly fantastic. And now, Connecticut Chemical makes possible the production of countless, *new* products in pushbutton form... with tremendous sales volume opportunities... costing but slightly more than present packaging methods.

Our research development laboratories are in a position to offer you sound technical advice. We can show you how POLYSOLS can be applied to your product or help you conceive a new one. Above all, we can help you determine if your product should be in POLYSOL or *aerosol* form.

CALL OR WIRE TODAY— and let us show you how POLYSOLS may be the solution to your problems. Even if your product was checked in the past, *and found to be too costly or impractical,* we can prove to you that POLYSOLS can be your economical answer.



QUICK POLYSOL FACTS

Q What are POLYSOLS?

A POLYSOLS are a combination of non-liquefied gases used singly or in combination... plus skilled packaging techniques... all designed to fit individual product requirements.

Q Are POLYSOLS expensive?

A Economy, is the word for POLYSOLS. Many manufacturers are discovering POLYSOLS cost but slightly more than old standard methods.

Q Can POLYSOLS be ingested safely?

A POLYSOL propellants are harmless. They're as safe as the product they propel... safe even for use on infants.

Q How can POLYSOLS boost sales?

A They enable you to offer an easily dispensed product... in an attractive, hermetically-sealed package... with economy. And they give you a new, powerful advertising story!



Polysols open the door to almost any product—for example:

Cosmetics
Cleansing creams
Facial creams
Vitamin creams
Astringent creams
Shampoos
Hair creams
Wave sets, lotions
Dandruff remedies
Hand creams
Cologne creams
Deodorant creams
Sun tan aids
Hair tints
Hair conditioners
Hair dyes
Liquid makeups

Drug Items
Toothpastes
Antiseptics
Body rubs
Hemorrhoid creams
Electric shave lotions
Hair grooms
Hair lotions
Baby astringents
Mouth washes
Liniments
Salves
Burn creams, lotions
After shave lotions
Diaper rash creams
Baby oils
Nasal sprays

Household & Other
Disinfectants
Spot removers
Metal polishes
Shoe polishes
Shoe cleaners
Car waxes
Furniture polishes
Furniture waxes
Detergents
Auto cleaners
White wall tire cleaners

Food—Already 30 food items have been successfully packaged to date—and Connecticut Chemical has made technical assistance available to interested food manufacturers and purveyors.



It's here
A TOOTHPASTE!



It's here
A FURNITURE POLISH!



It's here
A DEPILATORY!



It's here
A WAVE SET!

CONNECTICUT CHEMICAL RESEARCH CORPORATION

BRIDGEPORT 5, CONN.

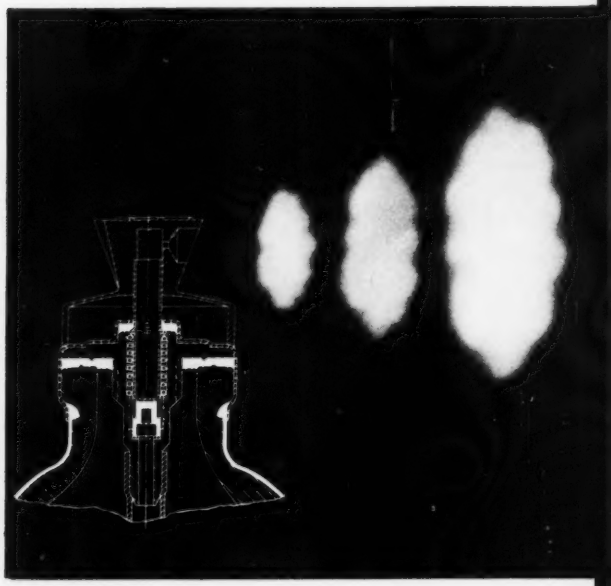
CANADA: Connecticut Chemicals Canada, Ltd., Curity & Hollinger Rd., Toronto
ENGLAND: Midland Aerosols Limited, Wolverhampton

Creating New Horizons
In Cosmetic And
Pharmaceutical Packaging

RISDON METERED SPRAY AEROSOL VALVES



For Coated Glass Containers





For Metal Containers

Creative research has made the Risdon metering valve another facet of Risdon's leadership in aerosol product dispensing.

You will find it in use on exquisite containers dispensing measured amounts of many of the best known perfumes. And in the pharmaceutical field, its ability to deliver the various pre-measured dosages desired, through special applicator-actuators, is opening new aerosol product possibilities.

It is available with either standard or patented Risdon "Micro-Mist" actuators, permitting unprecedented formulation latitude.

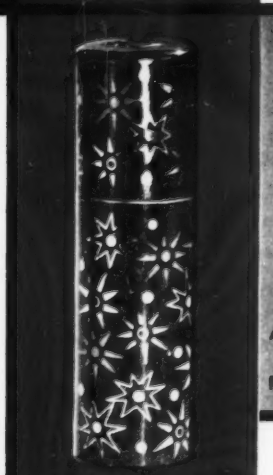
To serve your aerosol dispensing requirements Risdon offers technical advice and assistance plus extensive research, testing and quality control facilities and a fund of successful experience in the production of valves for a wide range of products.

For further information on Risdon metered-spray or conventional spray valves for glass, metal or plastic containers, contact Risdon today.

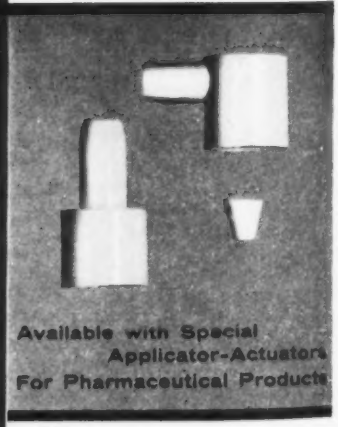
RISDON

THE RISDON MANUFACTURING CO.

Valve Division, Naugatuck, Conn.



For Combination Glass & Metal Containers



Available with Special Applicator-Actuators For Pharmaceutical Products

RI-96



IMPACT! adds sales punch!



IMPULSE! sparks point-of-purchase buying!



IMPROVEMENT! brings you the newest in glass!

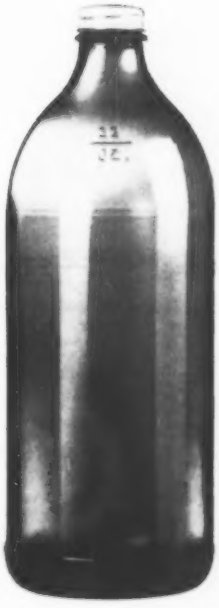




The Three Hazel-Atlas "Imps" Say —







"products that make things gleam - and keep them shipshape and clean

...sell better in H-A glass packages!"

Whether your product burnishes and nourishes wood or metal, cuts wash-day grime, or makes clothes, cars, or kitchens cleaner and brighter, it will get more sales *imp*act and produce more *imp*ulse sales in beautiful H-A packages. Rigid quality controls keep H-A containers uniform in size, shape, clarity and color. They perform efficiently on the filling line, and display your product at its best. No matter when or where you need it fast, H-A's nationwide "glass network" assures you of instant service – call your H-A representative or write Wheeling today.

...glamour in glass!

HAZEL-ATLAS GLASS

Division of CONTINENTAL © CAN COMPANY

WHEELING, WEST VIRGINIA

WE'RE WIZARDS AT...



serving your container needs

STEEL PAILS

ALL STYLES—ALL SIZES—ONE THRU FIFTEEN GALLONS

•

ALL TYPES OF PROTECTIVE INTERIOR LININGS

•

POURING EQUIPMENT

•

YOUR DESIGN LITHOGRAPHED IN OUR OWN PLANT

•

TIN CANS

SEAMLESS & PIECED

CENTRAL CAN COMPANY 2415 W. 19th ST., CHICAGO 8, ILL.

WHAT IS A PACKAGE?

By Walter F. Kohn

EVERYBODY sells things in packages. But few of us ever stop to analyze what a package actually is, what we want it to do, and how we can make it do what we want it to do. This is as good a time as any to find out what we're talking about when we talk about a package.

Just to brush up my own thinking about packages, I decided to discuss them with a man I consider an authority. He is Ervine Metzl, president of the American Society of Illustrators. Having been head of the Graphic Arts Department of Columbia University before his many commercial assignments obliged him to give up teaching, and having served repeatedly as a judge in graphic arts competitions, Mr. Metzl has designed a good many excellent packages himself. His good taste and his flair for design are salted with a practical appreciation of the fact that the first and last thing a package has to do is to sell what's inside of it.



The author is an advertising and promotion consultant who also knows a great deal about the role of packaging in merchandising. He has been associated with the advertising field for many years and has worked with and for top agencies. His work also takes him to Latin America, where he has successfully advised clients.

To begin with, we agreed, a package is a *container*. It has to wrap or enclose or contain our product, whether it's a bar of soap, a box of breakfast cereal, 20 cigarettes, a soft drink or anything else we're trying to sell. This means that it must do an efficient, foolproof job of holding its contents in good, clean, well-preserved, presentable form until the consumer takes them out of the package and puts them to use.

But a package is also a *face*, so to speak. (Call it a mask, if you prefer.) It's the face of the product it contains, the only thing that identifies it to Mrs. Consumer as she passes it with her shopping cart.

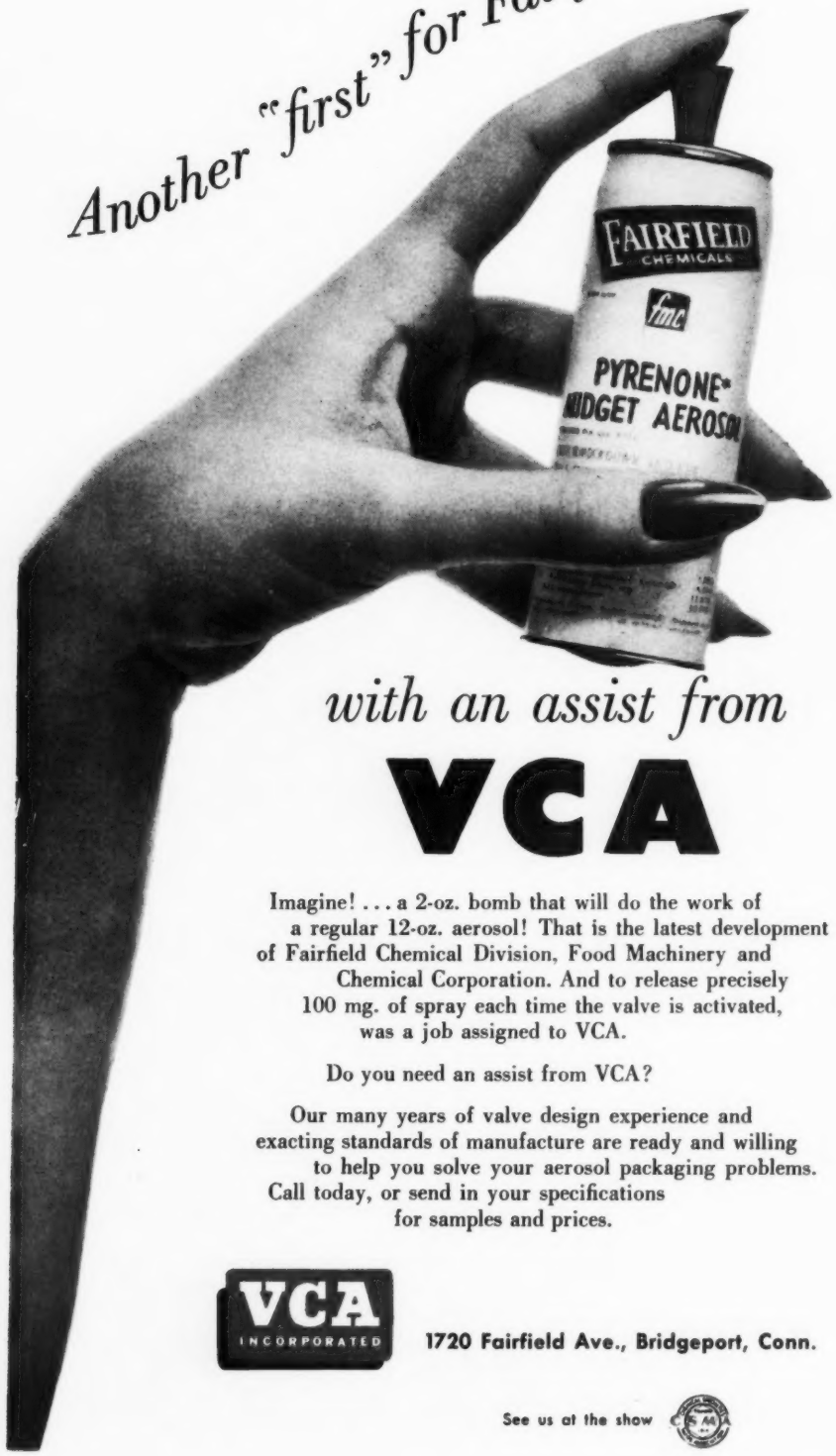
Looked at this way, a package is like an actor who steps out on the stage before the public. Unless he has some color, some movement, some facial expression or something else to arrest your attention, his act is a flop. That's what's wrong with some packages. They don't stop you.

At this point in our discussion, Mr. Metzl made a profound observation. He said that Nature

"... A package is like an actor who steps out on the stage before the public. Unless he has some color, some movement, some facial expression or something else to arrest your attention, his act is a flop. That's what's wrong with some packages. They don't stop you."



Another "first" for Fairfield . . .



with an assist from

VCA

Imagine! . . . a 2-oz. bomb that will do the work of a regular 12-oz. aerosol! That is the latest development of Fairfield Chemical Division, Food Machinery and Chemical Corporation. And to release precisely 100 mg. of spray each time the valve is activated, was a job assigned to VCA.

Do you need an assist from VCA?

Our many years of valve design experience and exacting standards of manufacture are ready and willing to help you solve your aerosol packaging problems. Call today, or send in your specifications for samples and prices.

VCA INCORPORATED

1720 Fairfield Ave., Bridgeport, Conn.

See us at the show



B18 — GLASS — Sensational new Metered Valve for cosmetics, pharm., etc.



B8—GLASS—Standard, for perfumes, hair lac., cologne, etc.



B2—FOAM—with exclusive "twistlok" for soaps, shampoos, creams, cosmetics.



B9—ALL BRASS or STAINLESS STEEL—with Nylon stem for hair lac., shave cream, pharm., cosmetics, etc.



NASAL SPRAY applicator for pharmaceutical use with B18 valve.

herself had designed a package so perfect that no artist has ever been able to improve on it.

When I asked him what this was, he said "It's the egg. An egg is a perfect container – the most beautifully designed, self-contained container the world has ever known. It's simple. It's suggestive of its contents. It has universal appetite appeal. When she sees it, the consumer knows exactly what she's buying. And there's no possibility of her being cheated."

Ideal Package Simple

AN ideal package, then, is a *simple* package – one that suggests its contents immediately and completely, and does it in such an appealing way that it sells itself on sight. Unfortunately, most products can't be sold in such an ideal package. It's the job of marketing men and artists – and it's imperative that they work together – to give our packages natural appetite appeal, beauty, and a quick, easily recognizable description or identification of the contents. All this has to be superimposed on an arbitrary, easily filled, workable container that will ship with a minimum of fuss and breakage, and then act as its own display, wherever it may happen to be.

Which adds up to a lot of requirements for a package that is often so small as to fit into the palm of your hand.

The food people have done wonders with packages. Some of them positively make your mouth water. But when we get to soaps and cosmetics, it isn't that easy. Merchandise in these categories has no appetite appeal. Its appeal is to health, cleanliness, beauty, sex and the social instincts. These appeals are infinitely more difficult to illustrate. They can't be simplified to a big color picture of a bowl of "Rice Krispies" with fresh strawberries and rich cream.

To make it worse, most soap and cosmetic packages are much smaller than food containers; an ordinary package of breakfast cereal



The perfect package.

takes up as much space as 16 large cakes of soap! Consequently a soap wrapper has to do the job of a billboard in a space the size of a business card.

Of course, the detergents come in larger boxes, and they try to make the most of their size, each one trying to look bigger than the others. We'll talk about detergents later.

A package is therefore not only a container and a face; it is also an advertising billboard. And here we run up against another difficulty.

As long as the package – the actor on the stage – is alone in his act, he gets your undivided attention. The minute you add a second and a third and a tenth package that want to get into the act, the net result is confusion. Which is exactly what faces Mrs. Housewife in the supermarket today – a dozen different brands all shouting their package faces at her, when all she's going to buy is one.

The big question is, which one?

Yours, you hope. So you spare no expense or effort to make your package, your wrapper on the cake of soap, the one that will catch her eye first and hold it longest.

Detergent Swirls Similar

IN detergents, the swirls of design are fairly similar from one brand to the next. Colors are becoming increasingly difficult to isolate from those of your competitors. So what you get down to is the name. And the names have been getting shorter and shorter, from five letters down to two, in the hope of making fewer letters stand out more boldly in larger type. The act is wide open in this twelve-ring circus, with everybody selling cleaner clothes and dishes with less work.

Toilet soap wrappers go into other schools of design. Soap is a cleansing agent. Consequently we all want to sell cleanliness. But how can you put your finger on it? And how are you going to do it in a space not much larger than a postage stamp?

Here is where some of us have gone pretty far afield. The small space the designer has to

Self-portrait of Ervine Metzl, package designer, president of the American Society of Illustrators and former head of the Graphic Arts Department of Columbia University. The author considers Mr. Metzl a package design "authority."



Experience

AN INTEGRAL PART OF THE CONTAINER WHEN MARYLAND GLASS TAKES OVER YOUR DESIGN PROBLEM

STOCK DESIGNS



A variety in blue or flint glass and a complete range of sizes is ready for immediate shipment.

When you drop a packaging problem in our lap, the end result is more than a glass container. It is an *idea* . . . born of restless imagination, shaped by skilled hands, backed by years of sound experience. Our creative staff gives you a selling package that packs well, ships well and pushes your product on the shelf. For a successful solution to your design problem, contact MARYLAND GLASS CORP., 2147-53 Wicomico St., Baltimore 30, Md.

PACK TO ATTRACT IN

Maryland Glass

BLUE OR FLINT JARS AND BOTTLES

work in has dictated the necessity for keeping soap wrappers simple. Since simplicity is one of the hallmarks of so-called modern art, modern art has worked its way into soap wrappers – and it seems to be here to stay. The great masses of consumers are accepting modern art even though they don't understand it. They've been conditioned to it for so long that it has already become a tradition – the accepted thing they would miss if it weren't there.

But here, too, competition has altered the picture. Just to say that a soap cleanses your skin will no longer do. Some of us have introduced the French boudoir to the package and the label – flowers, 18th century costumes, feminine lettering, rococo borders and decorations – the works. Most recently, of course, foil wrappers in color!

All of which gets away completely from the simplicity we may have started out with. This is, of course, another school of thought from the modern, and it is even more evident in cosmetics packages than in toilet soaps. It involves a line of thinking that grows out of its concern for the French 18th Century.

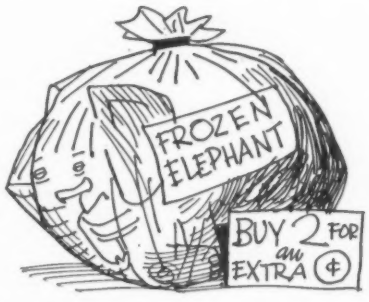
The art of that time was overelaborate and fancy. Of course it was all for the aristocrats, not for the plain people. By connotation, therefore, packages done in this manner implied something exclusive in their contents. And by implication, that justified a high price.

So you see how involved you get, once you start going down one avenue of artistic thought in package design. Of course competition followed suit, and it soon became a question of whether you wanted Madame de Pompadour or Marie Antoinette on your package. Not that many consumers could tell the difference.

But this competitiveness really lies at the bottom of all package design. It has become so paramount a consideration that nobody expects to build a lifetime package any more. Who remembers the whale on "Soapine?" Or the "Gold Dust Twins?" Or the twins on "Wool Soap?"

Certainly not the modern housewife. She doesn't know these trade marks because they stopped selling as they used to, and are becoming increasingly difficult to find on the shelves. They have been displaced by newer packages which had shorter but more sensational lives built into them. .Packages which, as soon as they were off the presses, were already being revised and displaced on the artist's drawing board.

One function of modern marketing is to keep the brand name before Mrs. Housewife by giving her a constant stream of news associated with the product.



One way of doing this is to have a new package every so often. This is the crux of the package designer's problem today.

He has to make Brand A more successful than Brand B. Then Brand C comes along and outdoes both A and B. So A has to start all over again and create a new package, different from all three.

At this point I again want to quote Mr. Metzl. He says that this constant change of package design too often reflects the fact that the manufacturer and his advertising agency have run out of things to say about their product. So they change its dress instead. This, he says, is a confession of the bankruptcy of the advertising thinking.

I can't go along with that. Competition is a fluid condition; and competition all too often dictates the necessity of a new package, and even indicates the thinking that should go into its designing. In other words, today's sales dictate tomorrow's package design.

Metzl had another objection to today's package which seems to me to have more validity. He says many packages are so busy with coupons and merchandise offers that they get away completely from selling the product. That packages are designed to sell themselves off the television screen instead of the supermarket shelf.

The fact is, of course, that the average woman selects her package at the supermarket on the spur of the moment. At that time she is faced with the package in its full color, not with its black and white (or faked-up grey) image on the fluid – and often distorted – television screen. Since the television screen is just as full of competitors as the grocery shelf, it might be well to concentrate more attention on what the woman sees when she's actually buying.

Now, if you want to get away from all the confusion, take a good long look at a package of "Kleenex"—as perfect a package as you'll find today, head and shoulders above its competitors. It tells its story at a glance. It has had changes and refinements every now and then, but it hasn't changed basically. And none of its competitors can come even within hailing distance of it.

Which brings us back to something we started with: any direct word, shape or picture that suggests and sells the contents immediately and completely makes a good package.

Just remember the egg.

—★—

New National Plant

A new plant for the manufacture of fibre board drums will be constructed at Pennsauken, N. J., by National Steel Container Corp., Chicago. The single-story, 40,000 square foot brick structure will be completed by July, 1958, according to Sidney M. Dry, National president.

VULCAN PAILS and DRUMS

Yours for

QUALITY CONTROL—plus

10 BONUS FEATURES

Hi-Bake Linings
Expert Lithography
Prompt Delivery

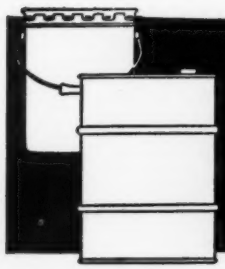
- Vulcan Steel Pails and Drums are *Sized* and *Styled* for *Your Product* — they're the answer to your toughest packaging problem.
- Vulcan Hi-Bake Linings spell scientific packaging for your *Hard-to-Hold* products.
- Vulcan Steel Pails and Drums are control-engineered for shipping, storing — with No-Spill, No-Leak, Tamper-Proof fittings and closures.

Every Vulcan Steel Pail and Drum is individually inspected and tested. Wide variety of styles—Plain Cover, Open Head Lug Cover, Closed Head Drum type.

SIZES 1-22 gallons



OVERNIGHT SERVICE — Vulcan Steel Container Co., Sales Offices in principal cities. Completely Stocked, Full-Line Warehouses Strategically Located Insure Immediate Delivery — AT ALL TIMES. For detailed information, samples, prices, write or wire Vulcan Steel Container Co., Birmingham, Alabama.



VULCAN STEEL CONTAINER CO.

Main Office and Factory

3315 35th AVE., N. • P. O. BOX 786 • BIRMINGHAM, ALABAMA

Packaging NOTES

Bush Barnum in New Post

Bush Barnum has been named advertising and public information director of the Glass Container Manufacturing Institute, New York, it was announced last month. Mr. Barnum had been public information director of the institute since April, 1954. He previously had been associated with Benjamin Sonnenberg and with Benton & Bowles, Inc.

★

Acquires Plax Interest

Monsanto Chemical Co., St. Louis, last month acquired a 50 per cent interest in Plax Corp., Hartford, Conn. through the purchase of 250,000 shares of Plax stock. The stock was acquired from Owens-Illinois Glass Co., Toledo, in exchange for 325,000 shares of Monsanto common stock. Plax, which manufactures plastic bottles, has plants in Stonington and Deep River, Conn., and Ligonier, Ind.

The other 50 per cent of Plax is owned by Emhart Manufacturing Co., which formed Plax. Owens-Illinois purchased its share in Plax for $8,000,000 in September, 1953.

★

Vulcan Advances Ferguson

Lawrence M. Ferguson has been named vice-president of sales for Vulcan Containers, Inc., Bellwood, Ill., it was announced last month by Vern I. McCarthy, president. Mr. Ferguson succeeds Herbert B. Scharbach who resigned, effective Nov. 15.

With Vulcan for 19 years, Mr. Ferguson was named assistant sales manager in 1950 and sales manager in September 1956. He is regarded as an authority on interior coatings for steel shipping containers and has been instrumental in the research and development of the company's techniques in varied coatings for the interiors of steel shipping pails designed for packaging chemical products.

He also worked on development of Vulcan's storage warehouse facilities at its Bellwood plant.



Lawrence M. Ferguson

At the same time, Mr. McCarthy announced the appointment of Eugene W. Gehm, senior sales representative for the past 11 years, as assistant sales manager.

★

Name Plastics Head

Appointment of John D. Czarnecki as manager of plastics research for Bradley Container Corp., Maynard, Mass. and Pittsburgh Plastics Co., Pittsburgh, was announced recently by Leonard A. Britzke, president of Bradley. Both companies are subsidiaries of American Can Co., New York.

Mr. Czarnecki has been active in Canco research activities for the past 14 years and, until his recent appointment, was a research associate at the firm's research center in Barrington, Ill.

★

Crown Appoints Beeler

Richard W. Beeler has been named sales development manager for the Can Division of Crown Cork & Seal Co., Philadelphia, it was announced last month. He previously had served in a similar capacity with the firm's Crown and Closure Division located in Baltimore. In his new post, he will handle the division's advertising and promotion programs and serve as coordinator between the sales and product development sections.

★

Record Canco Sales

Sales of American Can Co., New York, reached an all-time high in the nine and three month periods ended Sept. 30. Earnings increased slightly over 1956 but failed to reach anticipated levels, according to William C. Stolk, president.

Sales for the first nine months of 1957 totaled $661,119,477 compared with $638,527,859 in the corresponding period of the preceding year. Income amounted to $30,670,580, equal to share earnings of $2.41. This compared with $29,671,890 and $2.37 in 1956.

In the third quarter of 1957, Canco reported sales of $266,881,916 as compared with $262,038,542 a year ago.

★

Packaging Machinery Show

Exhibit space reservations for the 19th Packaging Machinery & Materials Exposition, to be held in Convention Hall, Atlantic City, N. J., Mar. 25-28, 1958, currently total 19 per cent more square feet than the entire display area occupied by the preceding show, held in Cleveland in 1956. In addition to the exhibits, the show will feature daily technical meetings conducted by the Packaging Institute.

According to K. B. Hollidge, Arthur Colton Co., Detroit, exposition chairman, more than 51,000 square feet of display area already has been purchased by manufacturers of packaging machinery and materials. Two years ago, about 8,000 persons visited the four-day show, at which 142 companies exhibited 150 new packaging machines.

★

Canco Puerto Rican Plant

A new $2,000,000 plant was put into operation last month by Puerto Rico Can Co., San Juan, a subsidiary of American Can Co., New York. William C. Stolk, Canco president, and island officials took part in the dedication program.



Creative packaging... makes merchandising break

BRACON bottles are playing a key role in the brilliant merchandising program that introduced Bayer® Nasal Spray this Fall. These squeeze-to-spray bottles provide a package to be used by only one person. Distinctive color coding and appropriate size make Bayer Nasal Spray "as personal as your toothbrush".

These economical containers, with built-in nasal plug, cap and spray tube assembled, are shipped to the customer's plant for efficient, high speed base filling and sealing.

BRACON packaging meets all kinds of requirements . . . in product merchandising, user convenience and production economy. Consider how creative packaging can stimulate your sales . . . investigate BRACON *squeeze-to-use* tubes, bottles and cans today.

Squeeze-to-use packaging by BRACON

BRADLEY CONTAINER CORPORATION Maynard, Mass.
New York • Chicago • Los Angeles • Toronto *A Subsidiary of American Can Company*

Inland Advances Turner

Robert B. Turner has been named general sales manager of Inland Container Corp., Indianapolis, it was announced recently. He formerly was division sales manager. He will be succeeded in that post by L. N. Summers.

Mr. Turner will have charge of the sales divisions of Inland plants in Indianapolis, Evansville, Ashtabula, Middletown, Erie, Detroit, Milwaukee and Chicago. A native of Ashtabula, he joined a local box firm there in 1927. The company was acquired by Inland in 1952 and four years later he was named to his most recent post.

Mr. Summers joined the firm in 1934 and since that time has served in various sales capacities.

—★—

FMC Appoints Olsen

Kenneth E. Olsen has been named sales engineer in the Chicago branch of the Packaging and Machinery Division of Food Machinery and Chemical Corp., New York. Opened in January of this year, the Chicago office, located at 5 North Wabash Ave., is staffed by sales and service personnel to handle both the division's paper box and packaging machinery lines. Formerly this area was served by manufacturer's representatives. In his new post, Mr. Olsen will be concerned only with sales of packaging equipment.

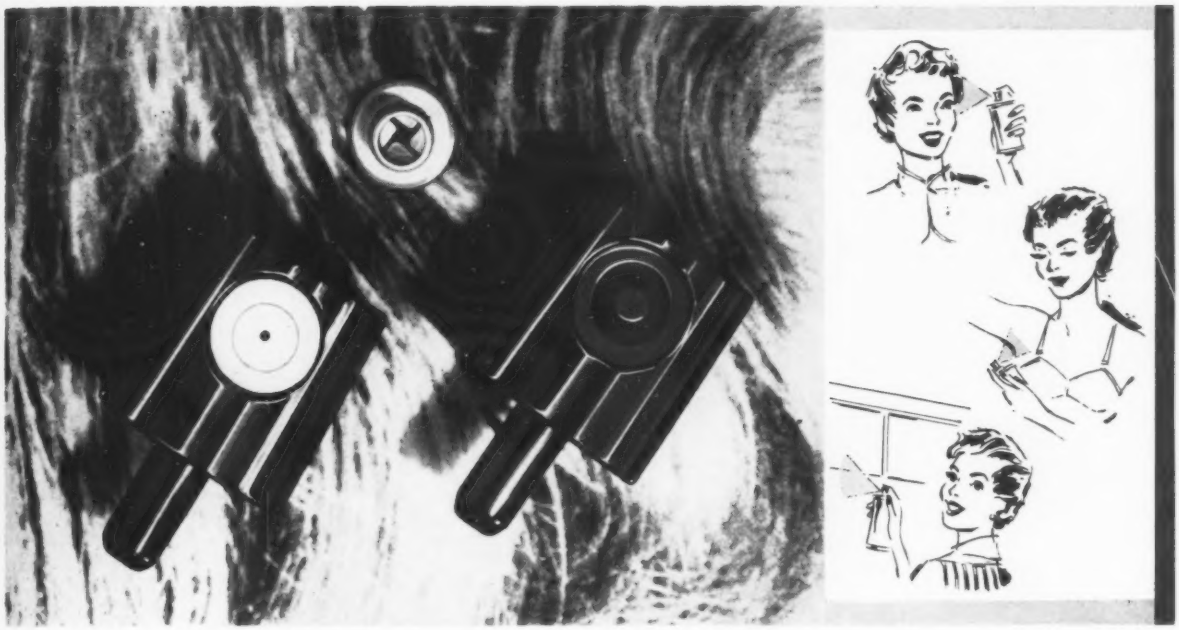
—★—

New Label Gluer

King Sales and Engineering Co., 441 Folsom St., San Francisco 5, recently announced development of a new gluing machine for pasting labels or other thin, flexible materials on containers, shipping cases or envelopes. Designated model "M," the unit applies glue in strips up to one and one-quarter inches wide. It can be used on labels and sheets up to 23 inches wide. The glue pot and motor housing are of aluminum construction and the gluing unit may easily be removed for cleaning, according to the manufacturer.

NEWMAN-GREEN CREATES NEW BREAK-UP VALVE FOR MORE EFFICIENT, MISTIER SPRAY PATTERNS

New Aerosol Valve Is Ideal For Dependable Operation With Hair Lacquers, Colognes, Personal Deodorants, & Window Cleaners



The new valve head designed by Newman-Green offers you the most efficient mechanical break-up spray available for a variety of applications. This new aerosol valve gives smooth and dependable operation in use with hair lacquer, cologne, personal deodorant, window cleaner and other low pressure formulations. It provides consistent and uniform spray patterns at all times.

As is the case with all Newman-Green valves, the basic valve unit has not been changed. Only the spray head is new. The new model gives a fine atomization that utilizes low pressure products to the fullest. It eliminates excessive volume during use, keeps spray light, mistier and very effective in use.

For all kinds of designing, engineering, and manufacturing of aerosol valves, come to Newman-Green. We take pride in helping you produce even better aerosol products for today and the future.



Newman-Green offers you a wide selection of spray heads in a variety of colors. All are interchangeable in seconds.

Newman-Green, Inc.
151 Interstate Road
Addison, Illinois

Please send me your price schedule and free valve samples.

Name_____ Title_____

Company_____ Address_____

City_____ State (Country)_____

Valve Application_____

NEWMAN-GREEN *Creative Aerosol Valve Engineering*

151 Interstate Road, Addison, Illinois

AEROSOL IMAGINATION · AEROSOL CREATION · AEROSOL REALIZATION



AEROSOL TECHNIQUES

INCORPORATED

EXCLUSIVELY PRIVATE LABEL MANUFACTURER OF AEROSOL COSMETICS, PHARMACEUTICALS AND CHEMICAL SPECIALTIES.

111 SILLIMAN AVENUE BRIDGEPORT 5, CONN. TEL. EDISON 6-0176

PI Honors Prindle

Karl E. Prindle of Dobeckmun Co., Cleveland, has received the first Professional Award of the



Karl E. Prindle

Packaging Institute for his work in flexible films and his outstanding contributions to packaging technology. Presentation was made at the organization's 19th annual Forum held recently at the Hotel Statler, New York.

In 1926, while with E. I. du Pont de Nemours & Co., Wilmington, Del., Mr. Prindle co-invented moisture-proof cellophane. This accomplishment is considered one of the most significant contributions ever made to the flexible packaging field.

After joining Dobeckmun in 1932, Mr. Prindle invented cellophane "Zip-Tape," the widely used tear tape now popular on cigarette, chewing gum and similar packages.

During the war years, he contributed materially to packaging technology in adapting laminations of film, paper and foil to military needs in packaging emergency rations, aircraft engines and related products.

★

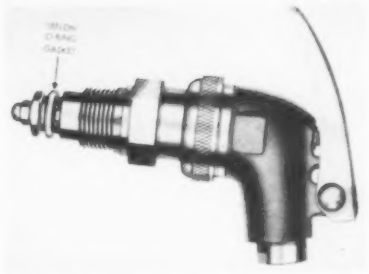
Research Cuts Can Prices

Although metal can prices have more than doubled in the past 50 years, a container that today costs 3.5 cents would be priced at about 15 cents if it hadn't been for constant technological advances, F. B. Newcomb, vice-president in charge of the central division of American Can Co., declared last month.

Speaking at a luncheon in Milwaukee in conjunction with the dedication of new steel coil processing facilities at Canco's plant there, Mr. Newcomb said, "that had we not steadily progressed from the 1907 methods, the cost of metal can manufacture today would be at least 11 times greater than it is."

Commenting on the installation of the new facilities, Mr. Newcomb said, "that Canco visualizes the coil processing program as opening a new era of container manufacture. We feel this is only a phase in a can making revolution that will render present day operations obsolete in a comparatively few years."

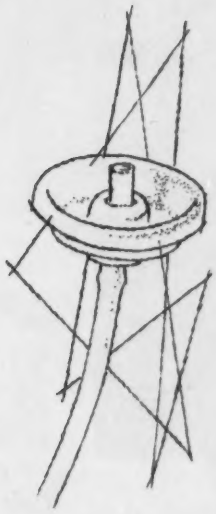
He added that the next project in the company's long range can-making development program will be installation of equipment for chemically treating steelplate as part of the coil operations. Such a unit will be put into operation at the Hammond, Ind., plant next fall. To date, Mr. Newcomb stated, Canco already has invested 27 million dollars in the coil program.



New leak-proof, self-closing drum faucet for use on all types of large containers was announced recently by Protectoseal Co., 1920 South Western Ave., Chicago 8. Equipped with a push-spring lever-type handle, the product features a "Teflon" O-Ring gasket designed to prevent leaking caused by swelling, shrinking, cracking or other common tpyes of deterioration. Body of faucet is available in brass or stainless steel.

First award for products in the pharmaceuticals, drugs, cosmetics and chemicals classification in the recent 1957 National Flexible Packaging Competition went to Cellu-Craft Products Corp., New Hyde Park, L. I., N. Y. The bags, used to pack "Gaiety" bubble bath of Allen B. Wrisley Co., Chicago, are 3 mil polyethylene printed by flexography. The stripes on the bags are color coded to identify three different bubble bath fragrances. This gauge film affords good protection and eliminates breakage hazards, according to the judges.





Price Announcement

It is singularly rewarding, especially in these times of rising costs, to be able to announce to our customers a reduction in price. Effective immediately, the price of our aerosol valves will be reduced to 2½¢ each. This price reduction is made possible by a new, and fully automatic high-speed manufacturing method. A method that has produced a standard Sun Tube Valve that has been extensively tested in actual field use for the most exacting quality and performance

Sun Tube
CORPORATION

AEROSOL SALES DEPARTMENT
HILLSIDE, NEW JERSEY
WAVERLY 3-0400

AEROSOL *Packaging...*

TO FIT YOUR* PRODUCT



PRODUCTION VERSATILITY—Our facilities will handle oil and water base, liquid and foam products, of all types, *in small or large quantities.* No minimum run required and no maximum limit! *Rigid quality control* is maintained on all production regardless of the size of your run. All types of cans and valves are available to you from stocks kept on hand. Complete laboratory service lending itself to *dependable production* is a must for your aerosol or pressurized product needs and is also part of our complete service rendered by personnel trained in aerosol research. For information, consultation, or estimates, write or phone one of the countries first aerosol fillers — CHASE PRODUCTS COMPANY •

INCREASED PLANT FACILITIES—Our new 30,000 sq. ft. plant is centrally located for ideal distribution, with both rail and truck facilities. We offer warehousing, drop shipping in bulk lots, direct pick up and routing by major national truck lines. Outer Belt Line rail service connecting every railroad in the Chicago area. All these make for faster, more efficient, more economical receiving, handling, and delivery of your merchandise.

CHASE PRODUCTS COMPANY · MAYWOOD, ILLINOIS

Owens-Illinois Assures You A Complete Packaging Approach



Co-ordinated Research

Pure research into fabrication of glass, *packaging research* into processing and handling methods in customer plants, *market research* into consumer attitudes. All add up to greater packaging value.



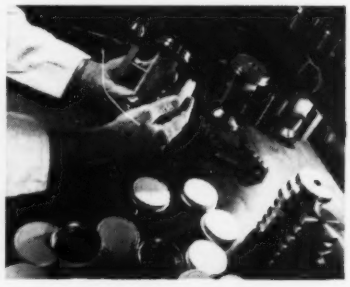
Engineered Design

At Owens-Illinois, your package's *three* needs are taken into account: 1) Considerations of its function in the retail store, 2) its operating efficiency, and 3) its consumer utility.



The Right Container

Versatility of facilities and talents make O-I your best source of supply. In container development—beauty, utility, tradition are blended in the right proportions for your product's needs.



The Right Closure

Through long and continuing research O-I has developed the most advanced metal and plastic closures. Helping you choose the right closure is another function of O-I's packaging service.



Needed Fitments

O-I specialists are keenly aware of sales benefits derived from plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.



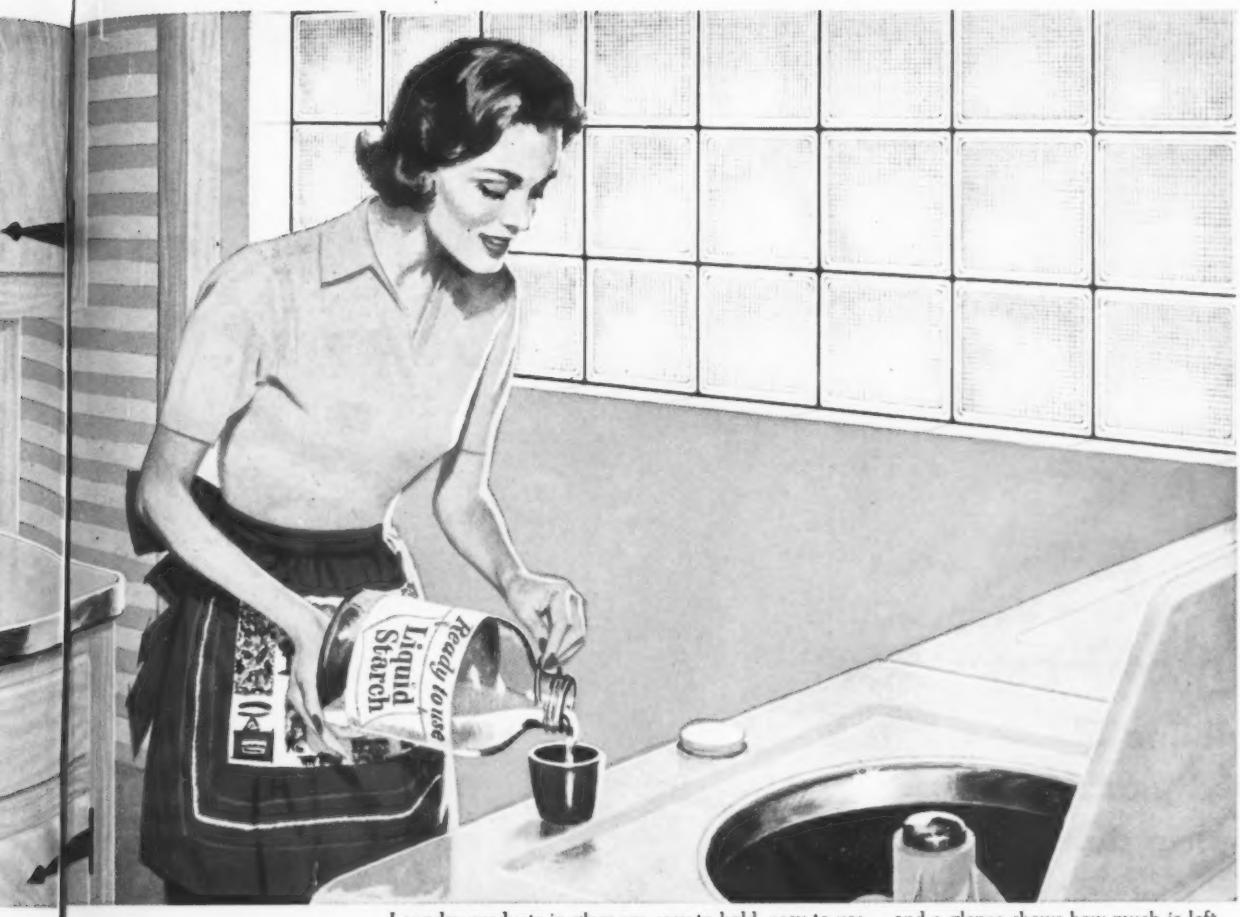
Merchandising Cartons

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and warehouse . . . as well as on your own filling line and in transit.





New convenience for liquid products! New *two-finger* handle by O-I . . . makes large-size containers so much easier for the housewife to use.



Laundry products in glass are easy to hold, easy to use... and a glance shows how much is left.

Look at all the freedom glass brings to washday packaging!

In today's market, your laundry product needs every packaging advantage: a new user convenience—an edge in eye appeal—or even the smallest reduction in volume-cost.

That's the beauty of glass packaging—*packaging freedom!* There are endless ways to improve your salespackage to make it work harder. Take, for example, these up-to-the-minute packaging ideas from Owens-Illinois.

The full-gallon jug. Ideal for volume items like liquid starch, where users are accustomed to buying for economy in big ½-gallon sizes. Users will appreciate the extra savings they get in the full-gallon jug. And it means the advantage of more economy to you, too!

New two-finger handle. Gripped with two fingers, instead of one, economy sizes of liquid washday products seem so much lighter, far more convenient to use.

Bright, attractive ACL labels. Natural for premium-priced *washday* products like special cold-water compounds for woolens. Glass labeled with bright, colorful ACL label makes an eyecatching salespackage.

So for washday packaging—make it glass! Remember Owens-Illinois is the marketing-minded supplier of the *complete* salespackage—from over-all design to selection of the right container, closure and fitment.

DURAGLAS CONTAINERS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

ONLY CONTINENTAL OFFERS THE

"Fluid Flow Five"



A full line of "poly" nozzle non-drip detergent cans

Take a good look at Continental's exclusive line of five *Fluid Flow* cans. Everyone of these rugged containers gives liquid-smooth performance for your detergent *plus* these big selling features:

EVEN POURING, NO DRIPPING. Threaded polyethylene nozzle permits free flow . . . provides exact, dripless cutoff when pour is completed.

WRAP AROUND LITHOGRAPHY. Solderless construction frees every square inch of outside surface for colorful decoration—even domes and tops.

LASTING BEAUTY. Resistant varnish prevents marring of lithography . . . protects your sales message from the time it leaves your plant until it's in the consumer's hands.

TOP PRODUCT PROTECTION. Newly-developed enamel linings prevent raw metal from touching your liquid detergent.

For more information on how Fluid Flow cans can benefit your product call your nearest Continental representative.

News For Makers Of Other Hard-to-hold Products

Fluid Flow cans are also available for such products as: liquid wax (water base) . . . liquid soaps . . . liquid starch . . . liquid car wash . . . liquid polish (water base) . . . liquid rug and upholstery cleaners . . . and water base cleaners.

QUALITY Continental SERVICE

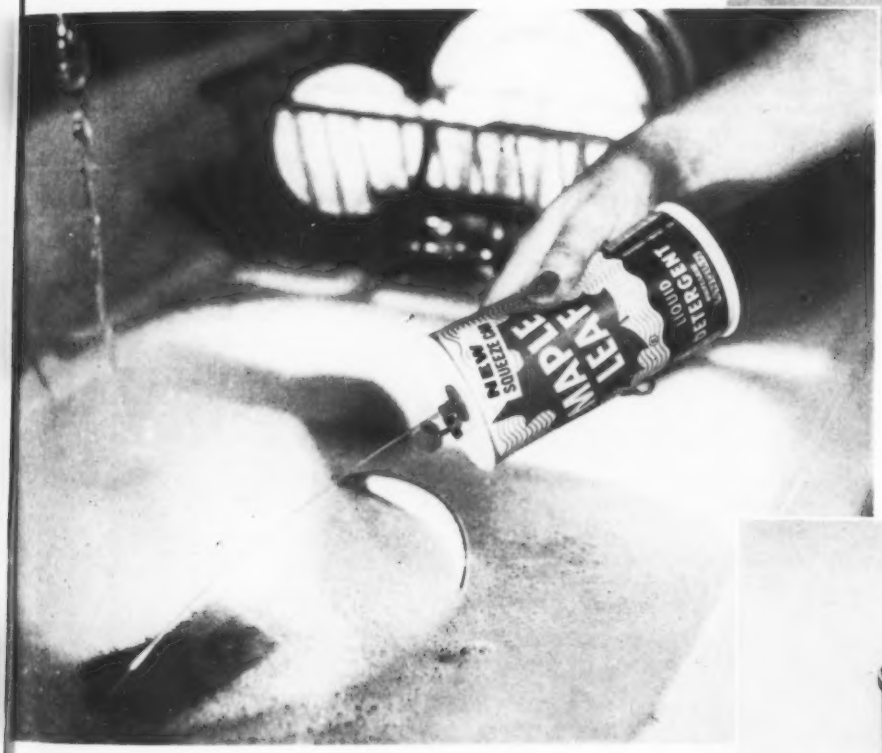
CONTINENTAL CAN COMPANY

Eastern Division: 100 East 42nd Street, New York 17, New York
Central Division: 135 South LaSalle Street, Chicago 3, Illinois
Pacific Division: Russ Building, San Francisco 4, California

What's New?



Rust Master Chemical Corp., Cambridge, Mass., is now marketing its "Carb Master" carburetor and fuel line conditioner in a 16-ounce dripless "Accu-Por" container of American Can Co., New York. The new package features an all-around lithographed label of red, yellow and black, and a non-drip neck which permits pouring of the product into gasoline tanks or carburetor tubes. Product formerly was packaged in "1-Style" can.



C-P Co., a division of Canada Packers, Ltd., Toronto, has adopted a new 12-ounce polyethylene squeeze bottle by Bradley Container Corp., Maynard, Mass., for marketing its "Maple Leaf" liquid detergent. Product, which contains lanolin, is said to be designed to remove scum and grease in household cleaning and dishwashing.



A new spray coating designed to prevent snow from sticking and accumulating on snow removal equipment was developed recently by Speco, Inc., Cleveland. Trademarked "Slikote," product is packaged in a 16-ounce aerosol container by Continental Can Co., New York. A colorless liquid, it can be used on power snow throwers, snow plows, shovels and pushers. Retail price is $1.98.







Time Chemical Co., Chicago, recently announced the marketing of two new products—"Time Saver" cleanser with bleach added, and "Time Saver" creme detergent for cleaning dishes, glassware and silver. The new cleanser is packaged in a 24-ounce shaker container which features an aluminum foil wrapper of blue, gold, red and white by Aluminum Co. of America. The product is said to be especially suited for removing stains and is claimed to deodorize and disinfect while it cleans. The new creme detergent is said to work equally well in hard or soft water. It comes in one-gallon bottles, which are packed four to a case. One dispenser is included in each case.

A new first-aid treatment for minor cuts, burns and sunburn was introduced recently by Interstate Precision Products Corp., Anaheim, Calif. Called "Burn Relief," the product is packaged in an aerosol "Spra-tainer" container by Crown Cork & Seal Co., Philadelphia. Retail price is $1.49.

National Carbon Co., New York, has added two new items to its recently-established "Eveready" line of garden products. They are "Eveready" all-purpose insect spray, for use in both the garden and home, and "Eveready" 72 per cent chlordane concentrate designed to control lawn grubs and crabgrass. The insect spray is packaged in a 12-ounce container by Continental Can Co., New York, while the liquid chlordane spray comes in a 32-ounce bottle by Owens-Illinois Glass Co., Toledo. Both packages feature the "Eveready" and Union Carbide hexagon trademarks on a label of blue, red and white.

A new four-ounce flint bottle has been adopted by King Research, Inc., Brooklyn, N.Y., for packaging its "Dandricide" anti-dandruff rinse. The bottle, by Hazel-Atlas Glass Division of Continental Can Co., Wheeling, W. Va., features a white screw cap by Aluminum Co. of America. Label of red and black on silver background is by Gardner-Neumann, Inc., Brooklyn.









New laundry bleach designed for dry application directly into the wash wheel was announced recently by Cowles Chemical Co., Cleveland. Tradenamed "Dry Chloresco," the product is said to remove mildew stains and reduce tensile strength loss up to 50 per cent.

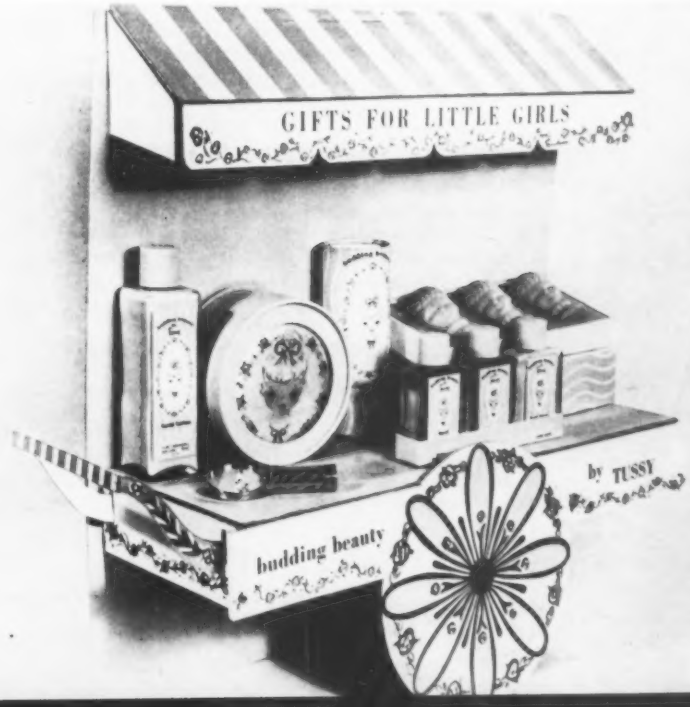


New high-gloss and satin finish all-purpose aerosol varnish sprays, recently developed by Krylon, Inc., Norristown, Pa., are designed for use on all finished woods and metals. The products, which are said to dry soon after application, are packaged in a 16-ounce aerosol container and retail for $1.79. A colorful, unit is available to all Tussy distributors for use in point-of-sales display for the Christmas season.

A new shampoo, recently introduced by John H. Breck, Inc., Springfield, Mass., called "Breck Banish," is said to provide an effective corrective treatment for dandruff. The product also is claimed to be suitable for use on dyed, bleached or permanently waved hair. It will be introduced nationally about January 1. Retail price is $1.50.



New line of children's toiletries, introduced recently by Tussy Cosmetiques, Inc., New York, features individual bath soaps and related toilet preparations. Packed in a pink and blue cart measuring 18 x 7 x 20 inches, the unit is available to all Tussy distributors for use in point-of-sales display for the Christmas season.



Young companies grow fast in the aerosol field



...with A-R-C...the valves that are

ONE STEP AHEAD

OF ALL OTHERS...IN SALE APPEAL

An Aerosol valve, as we see it, is not merely an addition to the can. It's a vital, integral part of the product itself, and as such, MUST be engineered to standards consistent with the quality of the product.

For that reason, A-R-C has always maintained controlled-quality manufacturing specifications. We have kept our machines and equipment up to the foremost lines of mechanical and scientific progress. We have instituted methods of automation that have reduced margin for error to an absolute minimum . . . and we have always staffed complete product-analysis and "trouble-shooting" laboratories — to serve the pressurized packaging needs of our customers more effectively and more profitably.

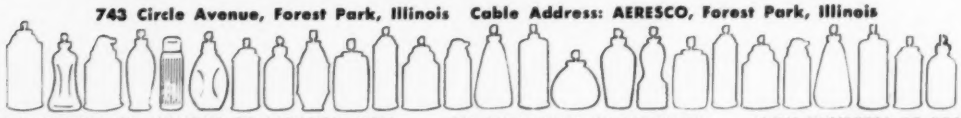
As a result of this continuing program, A-R-C valves are not "just as good" as any other valve. They are **one step ahead** . . . engineered to improve the performance, saleability and profit of all types of Aerosol products. Write, wire or phone today for information on how Aerosol Research can solve your valve needs — best!

Check these A-R-C features:

- **THE MOST COMPLETE LINE OF AEROSOL VALVES FOR SPRAY, FOAM & GLASS BOTTLE PRODUCTS**
- **NEW "MIST-MIZER" TIP FOR ULTRA-LOW PRESSURE AND WATER-BASE FORMULATIONS**
- **DIRECTIONAL, FINGER-TIP OPERATION**
- **AUTOMATIC INSPECTION OF EACH INDIVIDUAL VALVE**
- **WORLD'S FASTEST PRESSURE-FILL VALVE**
- **PROVED SUPERIOR BY HUNDREDS OF MILLIONS IN USE**

AEROSOL RESEARCH COMPANY

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SERVING HUNDREDS OF MILLIONS OF SATISFIED USERS . . . ON THOUSANDS OF PRODUCTS . . . FROM HUNDREDS OF COMPANIES

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AT THE HOLLYWOOD BEACH HOTEL
DECEMBER 9th, 10th, 11th and 12th

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Stalfort's 89 years of experience in private label packaging assures you of complete quality control of your formula or the formulas we develop for you. Complete processing and packaging facilities include market and package design counsel. America's leading private label marketers depend on Stalfort's extensive laboratory facilities and service. If you are planning a new product, let us make a survey and explain our facilities. You are under no obligation.

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- Paste Waxes
- Floor Cleaners
- Furniture Polishes
- Porcelain Cleaners and Metal Polishes
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We specialize in cosmetic, pharmaceutical, and household aerosols in metal, glass, or plastic containers.

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glass containers move more chemical specialties





Use **Anchorglass** *containers sealed with* Anchor® *caps*

. . . because they protect your product strength

HOUSEWIVES recognize the glass container as the most sanitary package . . . one that fully protects the strength, purity, potency and other qualities of the contents until entirely dispensed. Because the glass container is chemically inert it cannot change the product packaged in any way. It won't rust or corrode —inside or out . . . volatile contents do not evaporate and dry products will not absorb moisture. Move more of your chemical specialties in glass . . . in Anchorglass sealed with dependable Anchor metal or non-corrosive molded closures.

ANCHOR HOCKING

GLASS CORPORATION

Lancaster, Ohio

NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12 (a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of $25 must accompany each notice of opposition.

Chevron—This for floor waxes. Filed May 23, 1957 by Standard Oil Co. of California, San Francisco. Claims use since July, 1956.

Sprink—This for room deodorant. Filed Oct. 1, 1956 by Marguerite D. Blake, doing business as Dorothee Products Co., Needham Heights, Mass. Claims use since July 10, 1956.

Phostex—This for insecticides. Filed Apr. 17, 1957 by Food Machinery and Chemical Corp., New York. Claims use since July 31, 1956.

Like Magic—This for room deodorant. Filed May 8, 1957 by Better Brushes, Inc., Palmer, Mass. Claims use since May 6, 1957.

Alvo—This for cleaning compounds for laundry use. Filed Jan. 18, 1957 by Manuel C. Pacheco, doing business as Alvo Products Co., New Bedford, Mass. Claims use since Aug. 16, 1932.

Kork White—This for white wall tire cleaner. Filed Feb. 13, 1957 by Korkay, Inc., Gloversville, N. Y. Claims use since May 4, 1954.

Kork-Buster — This for metal cleaner. Filed Feb. 13, 1957 by Korkay, Inc., Gloversville, New York. Claims use since Mar. 31, 1955.

Lavish—This for shampoo. Filed Apr. 24, 1957 by Chesebrough Ponds, Inc., New York. Claims use since May 13, 1957.

Shining Life—This for shampoo. Filed Apr. 29, 1957 by Carter Products, Inc., New York. Claims use since Apr. 1, 1957.

Fomac—This for soapless acne detergent. Filed May 2, 1957 by Dermik Pharmacal Co., Brooklyn, N. Y. Claims use since February, 1951.

Enbond—This for metal cleaner. Filed May 2, 1957 by Enthone, Inc., New Haven, Conn. Claims use since May 18, 1956.

Acti-Lan—This for hand soap. Filed May 8, 1957 by Tesco Chemicals, Inc., Atlanta, Ga. Claims use since Jan. 1, 1957.

Liquiphene—This for fungicide. Filed Feb. 7, 1957 by Vineland Chemical Co., Vineland, N. J. Claims use since October, 1949.

Butacide—This for insecticide. Filed Apr. 8, 1957, by Food Machinery and Chemical Corp., New York. Claims use since Feb. 28, 1957.

Permex—This for anti-freeze. Filed May 21, 1957 by Chemical Sales Corp., Buffalo, N. Y. Claims use since May 3, 1957.

Perma Glaze—This for automobile cleaner. Filed Feb. 13, 1957 by Perma Glaze Chemical Corp., Gloversville, N. Y. Claims use since Oct. 5, 1946.

Greasefoe — This for hand cleaner. Filed Mar. 18, 1957 by Harry F. Hepfinger, Inc., Detroit. Claims use since Jan. 3, 1957.

Angelique — This for toilet soap. Filed Apr. 5, 1957 by Angelique and Co., Wilton, Conn. Claims use since Sept. 30, 1949.

Breakwater—This for liquid detergent and granulated laundry soap. Filed Apr. 11, 1957 by Rehoboth Products Co., Rehoboth Beach, Del. Claims use since Dec. 2, 1953.

Tru-Art—This for shampoo. Filed May 9, 1957 by Helene Curtis Industries, Inc., Chicago. Claims use since January, 1936.

Bell O' Perfume—This for mothproofer. Filed July 24, 1956 by Esquire Chemical Co., Downers Grove, Ill. Claims use since July 13, 1956.

Swift-Sure—This for insecticide. Filed Aug. 27, 1956 by Gerson Stewart Corp., Cleveland. Claims use since January, 1929.

Pine-Mist—This for disinfectant. Filed Oct. 29, 1956 by Plough, Inc., doing business as International Distributors, Memphis Tenn. Claims use since September, 1954.

Yankee—This for bluing for laundry use. Filed May 23, 1957 by H. F. Botsford & Co., Carnegie, Pa. Claims use since 1907.

Ome—This for powdered and liquid hand soap and industrial cleaner. Filed Feb. 20, 1956 by Hylin Industrial Cleansers, Detroit. Claims use since Jan. 26, 1956.

Superglo—This for detergent for general washing purposes. Filed July 30, 1956 by Hagan Chemicals & Controls, Inc., Pittsburgh. Claims use since Feb. 23, 1956.

Windsor—This for shampoo. Filed Sept. 21, 1956 by Helene Curtis Industries, Inc., Chicago. Claims use since January, 1948.

Super Suds—This for sudsing detergent. Filed Jan. 30, 1957 by Colgate-Palmolive Co., New York. Claims use since May 22, 1955.

Exit—This for shampoo. Filed Apr. 9, 1957 by Ellen Kaye Laboratories, St. Paul, Minn. Claims use since February, 1956.

Midas—This for anti-freeze and brake fluid. Filed Oct. 24, 1956 by Midas, Inc., Chicago. Claims use since Oct. 4, 1956.

Trithion—This for insecticide. Filed Mar. 7, 1957 by Stauffer Chemical Co., San Francisco, Calif. Claims use since Aug. 20, 1956.

Home Sweet Home—This for aerosol room deodorant. Filed Apr. 26, 1957 by Daggett & Ramsdell, Inc., New York. Claims use since Mar. 4, 1957.

Grimarvel—This for waterless hand cleaner. Filed Mar. 22, 1957 by Magnet Litho Supply Corp., New York. Claims use since Jan. 4, 1956.

PMMC—This for bake pan cleaner. Filed Apr. 26, 1957 by Diversey Corp., Chicago. Claims use since Jan. 2, 1957.

Soljent—This for dishwashing detergent. Filed Apr. 8, 1957 by Hagan Chemicals & Controls, Inc., Pittsburgh. Claims use since Jan. 10, 1957.

Paragon—This for dishwashing detergent. Filed Apr. 8, 1957 by Hagan Chemicals & Controls, Inc., Pittsburgh. Claims use since Jan. 10, 1957.

Exone — This for degreasing solvent. Filed May 20, 1957 by Franklin Research Co., Philadelphia. Claims use since Jan. 18, 1957.

—★—

Lapidolith Data

A new four-page brochure describing "Lapidolith" chemical floor hardener was published late last month by the building products division of L. Sonneborn Sons, Inc., 404 Fourth Avenue, New York 16. The product is said to harden and dustproof concrete floors and vertical surfaces, penetrating into the matrix to a depth of as much as 7 mm. It is suitable also for application to terrazzo flooring where it is claimed to perform equally well. Improved resistance to heavy loads, abrasion, acids, salts, oils and greases are claimed for "Lapidolith" treated floors.

Covered by patents, the product is a stabilized, colorless solution of metallic fluosilicates having a surface tension not exceeding 40 dynes per centimeter.

Specifications, application data, and information on Sonneborn's three years minimum bonded guarantees are supplied. Photographs of actual installations and a comparative chart showing the product's hardening and penetrating power are included.

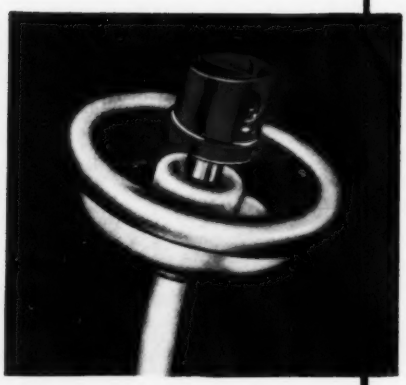
—★—

New Sturtevant President

George P. Towle recently was named president of Sturtevant Mill Co., Dorchester, Mass. He succeeds William T. Doyle, who becomes board chairman. Mr. Towle previously was executive vice-president and general manager.

Clayton F. English, formerly production manager of the company, which manufactures dry processing machinery, has been named executive vice-president.

THE VALVE'S THE THING



* Whatever type of product you are now packaging or planning to package in aerosol containers, top it off with a Precision Valve.

Our wide experience and modern manufacturing facilities with the best production machinery, offer the most complete line of valves for the widest range of product formulations.

The aerosol packager is aware that the pressurized container is a new horizon, a new dimension in packaging and merchandising. The latest count approaches nearly 1000 different uses for aerosols, paints, cleaners, pharmaceuticals, foods, cosmetics, etc.

We, at Precision, are justifiably proud of the record our valves have made, made in the hands of millions of users.

Precision, the world's largest aerosol valve manufacturer, is at your service.





Keep abreast of the best in packaging... watch for the Precision advertisements foretelling tomorrow's container news!

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On the next page . . . Precision brings you tomorrow's newest, today!

Chocolate
Coffee
Tea
Toppings
Batters
Catsup
Syrups

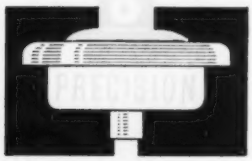


Waxes
Cleaners
Detergents
Hand Lotions
Dental Creams
Hair Dressings
Shampoos
Shaving Soaps

Wonderful way to Package ...for any

NON-AERATED LIQUID STREAM

A STREAM DISPENSER that operates at the touch of a finger. It's non-aerated and it maintains an hermetic seal on the container contents. Normally reactive volatile or oxidizable products can be kept for long periods of time without refrigeration... kept exactly as they were packaged. This makes an ideal container for foods, toiletries and household helps. Ideal because the contents remain unchanged after packaging. Ideal because it is an eye-appealing and easy to use package that has proven sales motivation.



PRECISION VALVE CORPORATION

liquid or semi-liquid product -Precision's new valve and spout

Sweeteners

Flavorings

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Antibiotics



Liquid Makeups

Prescription Dispensing

Eye Drops

Vitamins

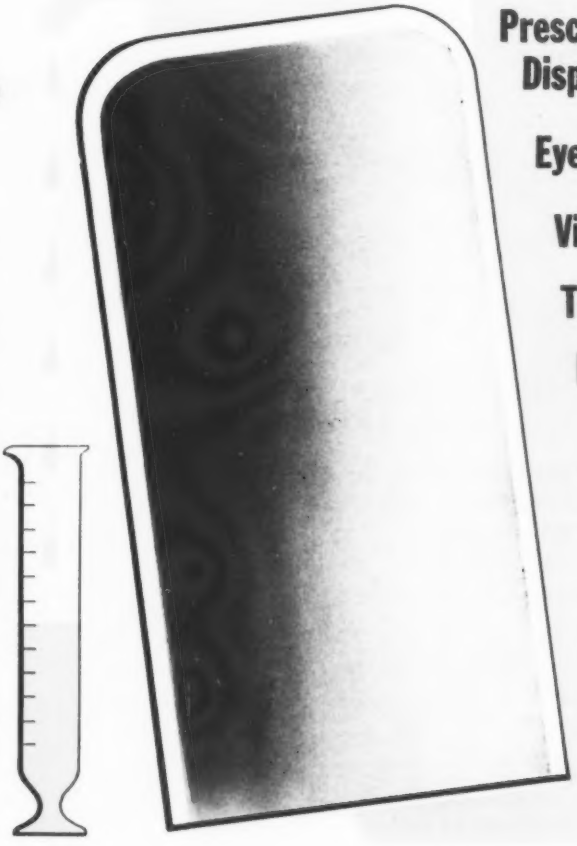
Tabasco

Bitters

Nose Drops

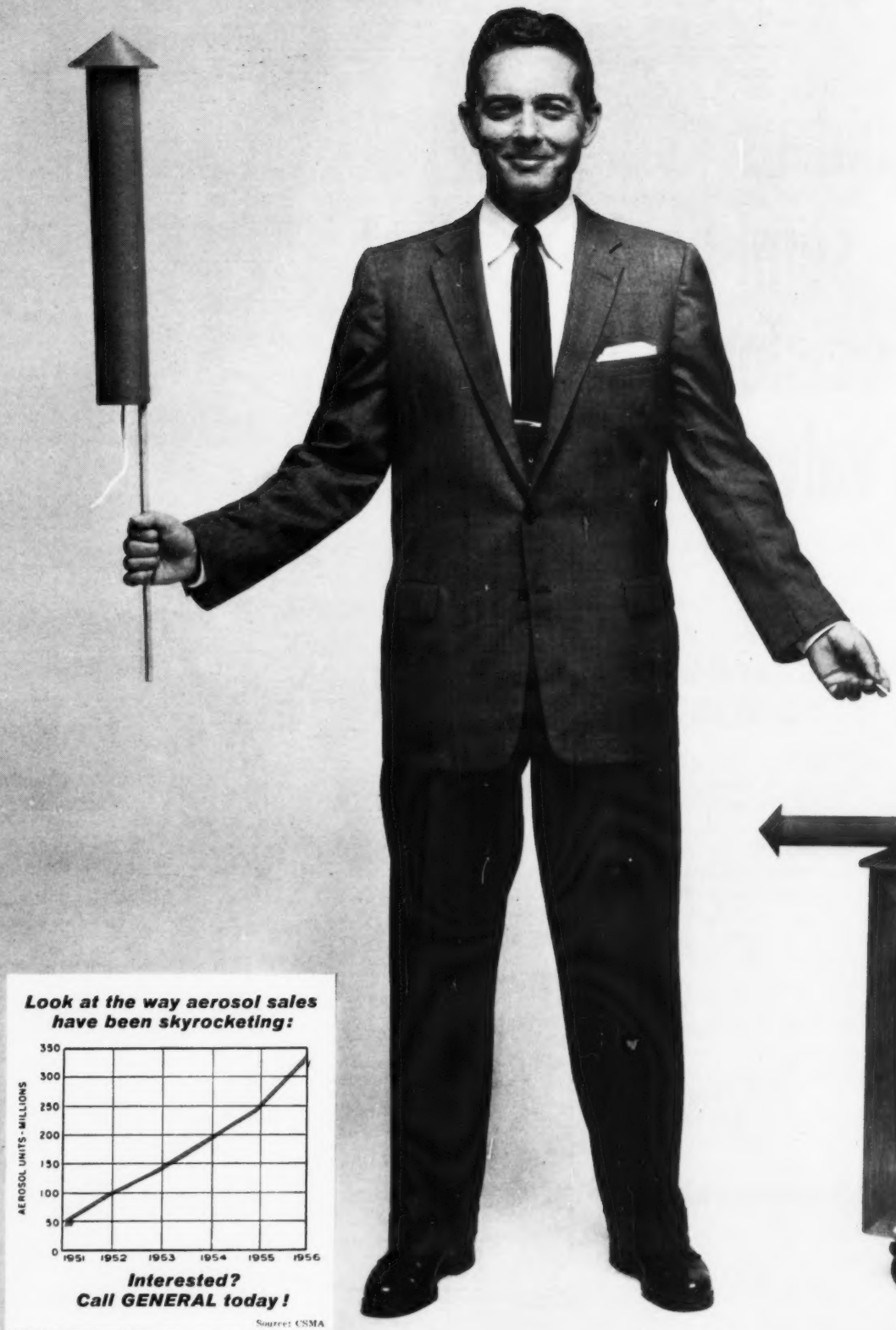
DROPS MEASURED TO SIZE

A DROP DISPENSER that operates at the touch of a finger to give a predetermined drop size, exact enough to dispense drugs or vitamins. An ideal dispenser of volatile products, many medicinals or oxidizable vitamins and extracts. The inert propellant does not effect the contents either physically or chemically. Thanks to Precision, you can now take advantage of this most modern and effective packaging container. Precision's engineers will be most happy to discuss your product and your product problems . . . a letter will bring you complete details. Why not write today!



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AEROSOL



Look at the way aerosol sales have been skyrocketing:

Interested?
Call GENERAL today!

Source: CSMA

PACKAGING

can start sales skyrocketing

for you!

If you've had your eye on aerosols, you've seen sales skyrocket from 40 million units in 1951 to 320 million units in 1956 . . . taking a dominant position in sales of hair lacquers, insecticides, shaving lathers, room deodorants and many other products.

Here's how *you* can get into this dynamic, high-profit field *practically* overnight—and without heavy capital investment!

If your product can be sprayed, brushed on, dusted or daubed, it's a likely candidate for aerosol packaging. General Chemical will help you develop a formulation with the right pressures and compatibilities for your product and container. *No cost or obligation!* And there are many capable contract fillers throughout the country who will put up your product in aerosol form for test marketing, and handle full commercial production, too. You do not have to invest in plant, special equipment or personnel to get into aerosols!

To arrange for a special presentation, write or call "Genetron" Department, General Chemical Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, N. Y.



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aerosol propellants

Allied Chemical

The Right Propellant for Every Aerosol Need!

Call on General for:



Free fact-packed technical manuals, market information



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Field assistance with propellant storage, handling

GENERAL CHEMICAL DIVISION • Allied Chemical & Dye Corporation

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POWR-PAK, INC.

Proudly announces a history-making advance in pressure packaging...

INERT GAS PROPULSION

This highly significant new development permits the use of an inert gas as propellant to allow for the pressure packaging of many formulas not possible with present day fluorinated propellants.

Immediate inquiries are invited on:



- **LIQUID STREAM DISPENSING** — A regulated stream dispensing of creams, liquids and lotions.
- **DROP DISPENSING** — Measured drop dispensing ideal for concentrates, chemical specialties and cosmetics.
- **INERT SPRAY DISPENSING** — Pressure packaging of a multitude of new products not formerly possible . . . including water based formulas.

PRODUCTION FACILITIES NOW AVAILABLE

We invite you to use our extensive laboratory facilities for sampling, advice, formulation, product improvement. Write, wire or telephone now for more information on Inert Gas Propulsion.

POWR-PAK, INC.

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whatever you **can** ...

can with CROWN Spra-tainers

For pressurized room fresheners or personal deodorants—for literally hundreds of household items and toiletries such as soaps, cleansers and polishes—*can* with CROWN, the only source for Spra-tainers . . . fabricated or seamless.

Spra-tainers offer the filler and marketer definite advantages. Metal guarantees no breakage. Seamless construction provides high-styling. Full wrap-around lithography lends beauty and high-fashion. And, if style is not a factor in your product merchandising, CROWN offers the conventional fabricated Spra-tainer.

Write for your copy of CROWN's new 3rd edition—"GUIDE TO PRESSURE PACKAGING." Crown Cork & Seal Company, Inc., Can Division, 9370 Ashton Road, Philadelphia 36, Pa.

whatever you can . . . call on **CROWN**

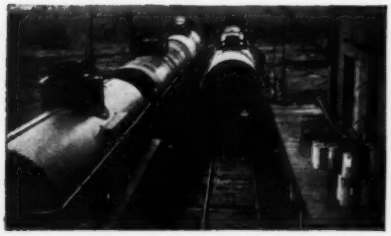
CROWN CORK & SEAL COMPANY, INC.

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...and then some!

50,000 square feet, as a matter of fact, in which to meet your liquid or aerosol filling requirements. Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When shipments are to be made, our personnel and equipment are ready to move large or small orders in a hurry... and of course, we're always glad to handle drop shipping. Direct railroad sidings and truck service at our door permits our plant to serve as your warehouse... a central distributing point... saving you time... and money.







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PRESSURE PACKAGING

ATI Appoints Gardner

Fred R. Gardner has been named sales manager of Aerosol Techniques, Inc., Bridgeport, Conn., it was announced late last month by H. R. Shepherd, president. Mr. Gardner formerly was associated with Stein Hall & Co., New York, in a sales executive capacity. In his new post, he will headquarter in New York and direct the company's sales program among cosmetic, pharmaceutical and food marketers.



Fred R. Gardner

—★—

Compressed Gas Meeting

The Compressed Gas Association recently announced the date for its 45th annual meeting. It will be held at the Waldorf-Astoria Hotel, New York, on Jan. 20 and 21, 1958.

—★—

Wins Crown Contest

Edward G. Thau, purchasing agent for Nestle Le Mur Co., New York, manufacturers of cosmetics and hair preparations, has won the "Spra-tainer" contest sponsored by the Can Division of Crown Cork & Seal, Inc., Philadelphia. Mr. Thau was awarded a large screen portable television set for coming closest to guessing the day and hour of the manufacture of the billionth "Spra-tainer" aerosol can. The package came off the company's production line at 3:40 p.m., Nov. 8.

—★—

Aerosol Paint Survey

Pressurized spray paint, of which 22.5 million units were sold in 1956, should take over a much larger share of the small package consumer paint market in the next few years, it was revealed through a survey recently completed by the Freon Products Division of E. I. du Pont de Nemours & Co., Wilmington, Del. The report estimated that annual unit sales will increase to between 75 and 100 million units by 1967.

Basing their growth estimates on a nationwide survey of both urban and metropolitan families, the company's Freon Division noted that sales of paint in half-pint and smaller cans have decreased over the last five years while in the same period sales of aerosol paints have increased 500 per cent.

The consumer survey also shows that users, once they have tried an aerosol paint, prefer it two-to-one over the brush method of application. Principal reasons given by consumers for their aerosol paint preference were ease of use and application, even-spreading and quick drying qualities. Among consumers who preferred other forms of packaging after trying the aerosol method, 58 per cent said they found the pressurized package difficult to use from a spray control standpoint, while 36 per cent felt it was too expensive.

—★—

Predicts Hair Spray Boom

By 1960, American women will be spending more money for aerosol hair laquer than for any other cosmetic item, according to Douglas Atlas, vice-president of G. Barr and Co., Chicago aerosol loaders. Mr. Atlas predicted that hair laquer output will jump to 150,000,000 units annually within the next two years. About 100,000,000 units are expected to be produced this year. Mr. Atlas bases his forecast on "the inevitable result of important product improvement in hair sprays." He pointed out that technical advances resulting in longer "holding power" for the hair, and a more natural feed, are helping establish the product as a toiletry must.



Douglas Atlas

—★—

PVP Data

A new, 48-page booklet containing comprehensive data on polyvinylpyrrolidone became available late last month from the acetylene chemicals department of Antara Chemicals, a sales division of General Aniline & Film Corp., 435 Hudson Street, New York 14. Properties and uses of PVP are described. The latter include detergents, soaps, hair sprays, and a host of other applications.

—★—

New Technical Service

A new technical and commercial intelligence service was formed recently by Pegasus International Corp., 1 East 53rd St., New York. According to Paul N. Weil, president, the foreign trade consulting firm will provide a complete report on any industry, product or trade operation anywhere in the world.



Miscellaneous Household Products: "Dogette" dog freshener, LaBora, Inc., Chicago.



Insecticides: "Raid" mothproofer, product of S. C. Johnson and Son, Inc., Racine, Wis.



Room Deodorants: "Adrienne Space Fragrance" by Rexall Drug Co., St. Louis, Mo.

Aerosol Package Contest Winners

TOP honors for "best of show" award in the annual CSMA aerosol packaging award contest were shared by two products for the first time in the history of the competition which began in 1952. "Five O'Clock" perfume mist by Helena Rubinstein, Inc., New York, and "Stag" shave cream by Rexall Drug Co., Los Angeles, were voted best packages in their respective product categories and best packages of all entered.

Photograph of the two Grand Prize winners on page 155 of this issue

Judging took place November 13 at the Chemists' Club, New York. A panel of six judges was deadlocked, because it felt that the perfume mist answered all requirements for an aerosol package to be carried on the person, while the shave cream package displayed outstanding shelf appeal. In addition to winning first place in the show the two products were selected as best in their respective class: "Cosmetics, Glass, and Plastic Aerosols" and "Shave Products." Awards were officially presented to the winners by Frederick G. Lodes, head of Lodes Aerosol Consultants, Inc., New York, and chairman of the





Judges: (seated) Mrs. Paul Green, Kings Point, L. I., housewife, and Mrs. Edyth Ramsay, home equipment editor, American Home magazine; (standing, left to right) Arthur R. Botham, industrial designer; Leigh Allen, J. Gordon Carr Co., industrial designers, New York; Maurice E. Bale, president, Harold F. Ritchie, Inc.; John Gerald, president, Hammacher & Schlemmer, New York. Lower left: CSMA luncheon for judges and committee at head table; Harry E. Peterson, CSMA president; Mrs. Paul Green; Mrs. Edyth Ramsay; Frederick G. Lodes, Lodes Aerosol Consultants, Inc., chairman; Ira P. MacNair, MacNair-Dorland, Inc.; John Gerald; Maurice E. Bale; and J. R. Wallace (foreground) Continental Can Co., New York.



Medicinal Products: "Alco-Mist" body spray, by Rexall Drug Co., St. Louis, Mo.



Miscellaneous Personal Products: "Myrtle Mayfield" body lotion, Mayfield Laboratories, Inc., New York.



Hair Preparations: "Adorn" hair spray by Toni Co., Gillette Park, Boston.

Aerosol Award Committee, on Monday morning, December 9, at a general session of the 44th annual meeting of CSMA in Hollywood, Fla.

Winners in the eight remaining categories included: Insecticides, "Raid" mothproofer by S. C. Johnson and Son, Inc., Racine, Wis.; Room Deodorants, "Adrienne Space Fragrance" by Rexall Drug Co., St. Louis, Mo.; Paints, Enamels, etc., "Kolor Brite" spray enamel by Martin-Senour Co., Chicago; Miscellaneous Household Products, "Dogette" dog freshener by LaBora, Inc., Chicago; Hair Preparations, "Adorn" hair spray by Toni Co., Gillette Park, Boston; Miscellaneous Personal Products, "Myrtle Mayfield" body lotion by Mayfield Laboratories, Ltd., New York; Medicinal and Pharmaceutical Products, "Alco-Mist" body spray by Rexall Drug Co.; and Industrial Products, "Vego H-18" electric motor and equipment cleaner, by Chemicals and Materials Corp.; Terre Haute, Ind.

All entries in the competition are on display throughout the CSMA meeting at the Hollywood Beach Hotel.

The panel of judges included representatives of retail stores, industrial designing firms, a consumer magazine and an "average" housewife. Judges were Leigh Allen, industrial designer, J. Gordon Carr Co.; Maurice E. Bale, president, Harold F. Ritchie, Inc.; Arthur R. Botham, industrial designer; John Gerald, president, Hammacher & Schlemmer; Mrs. Edyth Ramsay, home equipment editor, *American Home* magazine; and Mrs. Paul Green, housewife.



Industrial Products: (Left) "Vego H-18" electric motor and equipment cleaner, Chemicals and Materials Corp., Terre Haute, Ind.



Paints: "Kolor Brite" spray enamel, by Martin-Senour Co., Chicago.

Aerosol growth has been both rapid and satisfying, but nevertheless the product of well-planned, exacting design. Valuable time can be gained through a proper program approach. Whether your Aerosol problem be technical, promotional, diversification or sales, qualified advice and guidance will prove most beneficial.

To assure success in this fast-growing and lucrative field, may we suggest that you investigate the services of a competent Aerosol staff.

●

LODES AEROSOL CONSULTANTS, INC.

730 FIFTH AVENUE NEW YORK 19, N. Y.

CIRCLE 7-3170

British Aerosol Men Here

Neil S. Boggon, factory manager, and W. S. Wallace, process development officer of McDougall & Robertson, Ltd., Birkhamsted, Herts, England, who have one of the largest aerosol production operations outside of the United States, visited this country recently. They toured aerosol filling plants, as well as those producing cans, valves and equipment for filling aerosol products and conferred with aerosol authorities in the U.S. to learn about new developments in pressure packaging. Messrs. Boggon and Wallace left for England Nov. 19 following a three weeks' stay here.

—★—

du Pont Aerosol Report

A progress report on pressure packaging appeared in the October/November issue of the *Du Pont Magazine*, house organ of E. I. du Pont de Nemours & Co., Wilmington, Del., under the title: "Service with a Ssst." Under the leadership of Dr. Fred Reed, aerosols division head in the "Freon" products laboratory current projects include formulation and testing of several flame retardants and mildew preventives and experiments with a new system of water soluble decorative color sprays.

Custom development work in the recent past included adaptation to pressure packaging of such established products as rust preventives, mold release agents, and a depilatory. A workable aerosol formulation for a waterless handcleaner was devised, but only limited success was reported with a tire blackener.

One of the laboratory's current major tasks is the development of water in oil emulsions which can be dispensed as light sprays rather than as foams, as heretofore. Water based aerosols such as room deodorants, antiperspirants, and a number of pharmaceuticals have become sprayable due to this work.

Toothpaste, salves, and other viscous materials, which must not be mixed with the propellant, have now become candidates for pressure packaging with "Freon." The du Pont research team has placed these products in an inner bag of "Mylar" polyester film which is impermeable to fluorinated hydrocarbons.



Jack Carney, division manager of the Can Division of Crown Cork & Seal Co., Philadelphia, (left) presents Edward G. Thau, purchasing director of Nestle-LeMur Co., New York, with gold "Spra-tainer" lighter and portable television set for winning "Crown Billionth "Spra-tainer" Contest." Harvey C. Tull, manager of aerosol sales for the division looks on. Mr. Thau won by making guess closest to the day and hour when Crown's billionth "Spra-tainer" aerosol can would be produced.

—★—

New S.A. Aerosol Group

Formation of a pressure packaging division in the Argentine Chamber of Commerce, Buenos Aires, was announced recently. Alberto Trilles, president of Aerosol Argentina – Alberto Trilles & Cia., S.R.L., has been named president of the new organization. Enrique R. Rusconi, Sintaryo I.C. Soc. Resp., Ltda., has been elected vice-president, while Carlos Lambardi, Cia. Sud. Kreglinger, Ltda., S. A., will serve as secretary.

Other officers include Santiago Van Straaten, Safca Aerosol, S. A., vice-secretary; Antonio Arrigoni, Fotoquimica Soc. Resp. Ltda., treasurer and Jorge Balla, Lab. Dr. Gador & Cia. S. A., vice-treasurer.

—★—

Midget Aerosol Data

Fairfield Chemical Division of Food Machinery and Chemical Corp., New York, recently issued a new data sheet describing its "Pyrenone" midget aerosol insecticide. Designed to control flies, gnats and mosquitoes, the product is packaged in a two-ounce container. Its formula, however, is claimed to be equivalent to that of the 12-ounce aerosol insecticide in that the "Pyrenone" ingredients are in a concentrated form six times that used in the standard 12-ounce unit. Therefore, according to the manufacturer, only one-sixth of the material is required to treat the same area treated with the 12-ounce aerosol. This is accomplished by use of a metered valve supplied by Valve Corp. of America.

—★—

New du Pont Stencil Spray

A new aerosol stencil spray formula for sign and window painting was developed recently by E. I. du Pont de Nemours & Co., Wilmington, Del. The new formula is based on a co-polymer of vinyl acetate and vinyl pyrrolidone and is said not to soften or run under ordinary conditions to which nonpermanent sign paints are exposed. It may, however, be removed by wiping with a damp cloth or rinsing in cold water. Available in a wide range of colors, the product will not be marketed by du Pont, but will be offered free of charge to aerosol marketers and loaders.

B.P.D.

BOMBRINI PARODI-DELFINO

MECHANICAL PRODUCTS DEPARTMENT





Seamless impact extruded aluminum containers for the aerosol industry

publivision

No crimps, no solderings, no seams, no cements, NO LEAKERS!

Maximum resistance to pressure: distortion of the container's bottom occurs at over 250 p.s.i.

Minimum weight: a 12 oz can weighs 1.41 ozs, a 6 oz can weighs .89 ozs.

Full range of sizes to meet any requirement of the aerosol industry: wide choice of diameters, lengths and shapes.

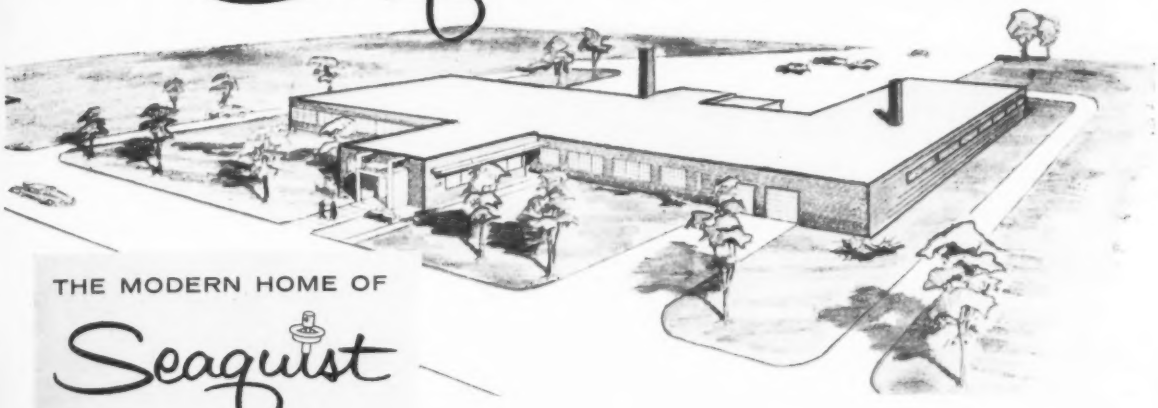
Standard 1" opening to fit any normal cup-type aerosol valve.

Perfect decoration of the cans; base-lacquering in any color plus lithographic printing in up to four colors.

All containers may be internally coated with special lacquers if they are to be filled with corrosive products.

BOMBRINI PARODI-DELFINO - 267, VIA DEL CORSO - ROME, ITALY

SEE Seaquist FOR BETTER AEROSOL VALVES!



THE MODERN HOME OF

Seaquist

AEROSOL VALVES



SHAVE CREAMS

HAIR LACQUERS

INSECTICIDES

ON TOP OF THE AEROSOL MARKET

ON TOP OF MANY FINE PRODUCTS

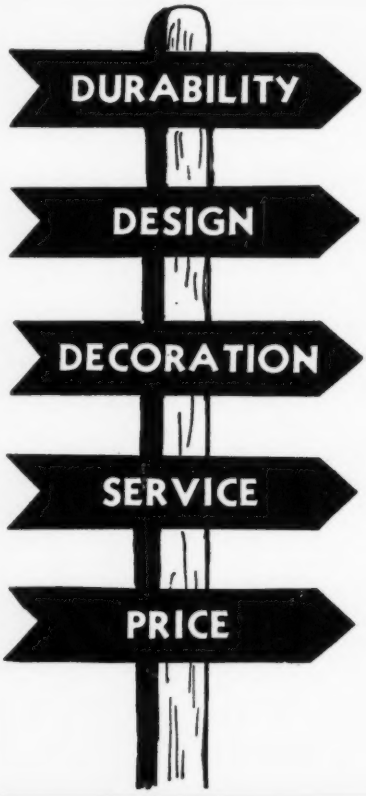
☆ Did you know the Seaquist *"Sea-Spray"* Valve is the only valve with the stem support collar for smoother action, greater stem strength, and positively eliminating leaks between stem and gasket regardless of product formulation.

☆ Also a sealing and retaining ring eliminating loose buttons and seepage common with high oil formulation products.

☆ The Seaquist *"Sea-Mist"* for cosmetics and the *"Sea-Foam"* for foam products also have the same features as the *"Sea-Spray"*. Why not wire, call, or write for free samples custom made for your product.

A PIONEER IN SMC AEROSOL VALVES

Seaquist MANUFACTURING CORPORATION
CARY, ILLINOIS



Eastern's superior workmanship guarantees strong, durable containers that will take your product safely to market.

Eastern's experts can be of major assistance in designing packages that win sales success.

Eastern is noted for top-quality lithography on every shipment.

No costly interruptions with Eastern's service — shipments arrive when and where you specify.

Eastern's advantages available at competitive prices because of our modern plant and long experience.

All Signs Point to EASTERN *for Distinctive* PACKAGING

Start on the road to a distinctive package for your waxes, cleaners, polishes and other specialties by calling in Eastern. Plain or lithographed — a package by Eastern guarantees satisfaction for both you and the consumer.

Further details available wtihout obligation

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EASTERN CAN CO., INC.

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NEW— Small Run Aerosol "Cold" Filler



► ***Complete Unit*** **— Formica top 30" x 48" with chilling unit, air compressor, air crimper and laboratory scale.**

***Chilling Unit*—Showing cold box and valves for controlling flow of propellants.** ►



Small production "cold" filler capable of filling approximately 1000 — 6 oz. cans per 8 hour day. Two different propellants can be mixed and filled. 20 cans and product can be pre-cooled in the cold box. Completely automatic refrigeration unit—maintains cold box temperature of —40°F and cold coil temperature of — 50°F. Safety features include high-pressure blow-off valve and pressure operated cutout.

EXCELLENT FOR: Laboratories and Small-Run Specialty Products

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BUILDERS SHEET METAL WORKS, INC.

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BILL SCHECK — CAnal 6-5390

108 Wooster Street **New York 12, N. Y.**



Larry Anzalone, right, representative of Merchants Motor Freight Co., congratulates Everett Cole, president of Titan Chemical Industries, Inc., Colorado Springs, Colo., on his company's first shipment of an aerosol product, "Titan" shave lather. Titan, which recently opened a new pressure packaging plant providing 22,000 square feet of manufacturing area, expects to have two dozen aerosol products on the market by the first of the year, including such items as hair cremes, a hair spray, a lingerie spray and a complete line of air fresheners. Plant is equipped with two Mojonnier filling lines capable of pressure and/or cold filling approximately 28,000 units in an eight-hour shift. Others present include, left to right: Joseph D. Park, vice-president of Titan; Robert L. English, traffic consultant; M. M. Reynolds, manager of the aerosol division; Paul L. Barrick, secretary-treasurer; Consuelo Kuhn, publicity director; and Raymond J. Seffl, chief chemist. Shown at lower right are Mr. Cole, Mr. Anzalone and Mr. English.

Aerosol Argentina Expands

Aerosol Argentina, Buenos Aires, last month announced installation of new aerosol filling equipment at its plant in that city. The expanded facilities will have capacity to fill between 12,000 and 15,000 aerosol units per day. In addition, a new laboratory for research on aerosol formulations has been constructed at the plant.

—★—

Acquires Mystic Foam

Dumas Milner Corp., Jackson, Miss., recently announced the purchase of Mystic Foam Corp., Cleveland, manufacturers of rug and upholstery cleaners. Complete details of the transaction were not disclosed. Dumas Milner makes "Pine-Sol" disinfectant and "Perma Starch."

According to Howard S. Cohoon, president of Dumas Milner, the Mystic Foam products to be added to Milner's line include "Instant Mystic Foam," packaged in an aerosol container, "Mystic Foam Liquid," and "Mysticlene." These products currently are marketed through hardware jobbers, department and grocery stores.

Present plans call for the continued sales of the Mystic Foam line through these outlets, Mr. Cohoon said. Marketing of the products will be backed by a heavy advertising and promotion campaign, scheduled to begin in the near future, he added.

Mystic Foam is second firm acquired by Milner in two years.

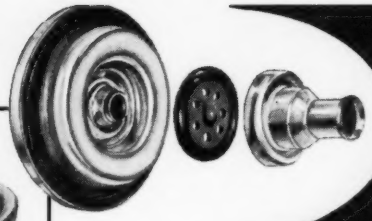
New tank rack for holding 25 or 145 pound cylinders of compressed gases and related materials was developed recently by Builder's Sheet Metal Works, Inc., 108-110 Wooster St., New York 12. Rack is 48 inches wide, 20 inches deep and 54 inches high and is free standing or may be fastened to wall. The company also is offering similar racks with capacities of one, two or four tanks.



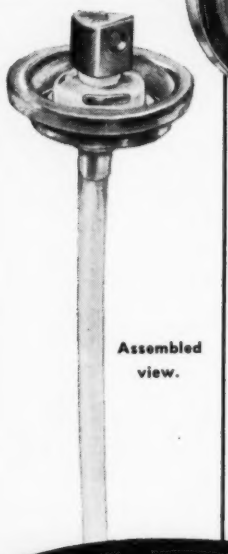
New dispenser valve of Powr-Pak, Inc., Bridgeport, Conn., which is said to make it possible to use inert gas for propulsion of aerosol products. This new development, according to E. F. Helfer, Powr-Pak president, opens the way to such new aerosol products as liquid stream dispensers, drop dispensers and inert spray dispensers. It also foreshadows many new products including liquefied foods, chemicals, water based products, etc.



Exploded view of OEL Aerosol Valve.



Positive operation ... no clogging with the OEL AEROSOL VALVE



Assembled view.

Simplicity is the keynote of the OEL Aerosol Valve. It has only three parts (see exploded view)—the nearest approach to integral construction of any aerosol valve. The unique rubber diaphragm insures accurate sealing, freedom from clogging, and positive action.

The OEL Valve is used on many well known spray and foam products. Interchangeable touch top fitments, easily assembled to the 1" cup, control flow rates and patterns. The same valve is used for both pressure and cold filling with proven results in uniform spray rates and patterns. Advantages are:

1. **Faster filling in pressure loading.**
2. **Minimum propellent loss.**
3. **Uniform flow rates due to "above-the-valve" control.**
4. **Safer with inflammable materials.**
5. **Simplified inventory control due to universal valve.**
6. **Mechanical break-up dispensing at no premium.**

The OEL Valve is now adaptable for products pressurized with nitrogen.

OEL THE *BETTER* AEROSOL VALVE

Send for information and samples to enable you to evaluate the OEL Valve on your products. Specify container size and dispensing fitments desired.

We are also manufacturers of precision equipment for pressure filling of aerosol containers.

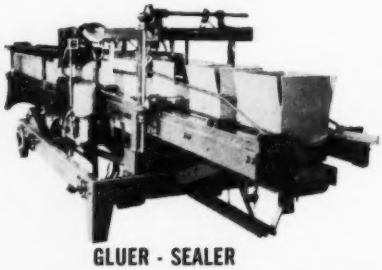
OIL EQUIPMENT LABORATORIES, INC. 600 PEARL STREET ELIZABETH, NEW JERSEY



MODEL V LABELER

NEW WAY LABELER

For all types of AEROSOL CANS — filled or empty — with or without caps — right or left hand lap labels. Same machine capable of handling standard sanitary cans, glass jars and/or bottles and screw top containers. Write for particulars on a machine to handle your containers — bulletin SC-1580.

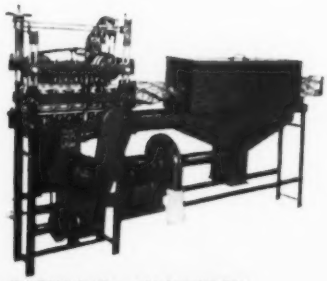


GLUER - SEALER

Incorporating such features as Flap Pre-heaters — controlled jet glue applicators — visible glue supply and many others. Write for Bulletin SC-1498.

CRCO JAR CLEANING LINE

Will blow loose dirt out of *Aerosol* cans, many types small neck bottles, and wide-mouth glass or tin containers. Other models available for water or steam to rinse or flush containers. Write for Bulletin SC-1493.



INVESTIGATE OTHER NEW-WAY PACKAGING MACHINERY

The Best IN LABELING AND PACKAGING Equipment

Chisholm-Ryder COMPANY OF PENNSYLVANIA

HANOVER, PENNSYLVANIA

Anchor Appoints Gans

Leo Gans has been named executive assistant of Anchor Plastics Co., Long Island City, N. Y., it was announced recently by Richard A. Fisch, president. Mr. Gans will be in charge of the company's chemical and product development laboratory, and will also supervise and coordinate customer relations and extrusion plant operations. He formerly was senior development engineer of the film division of Olin Mathieson Chemical Corp., Baltimore.

—★—

Fordham Alumni Hear Mina

Dr. Francis A. Mina, technical director of Lodes Aerosol Consultants, Inc., New York, presented a paper entitled, "Aerosols in Pharmacy," at the fall meeting of the Fordham University Pharmacy Alumni Association at the Hotel Concourse Plaza, New York, Nov. 6. In his talk, Dr. Mina presented a brief, historical resume of the growth of aerosols in the United States, and touched on the various components that go into the making of a complete aerosol package. Also explained were the modes of action of the various aerosol systems together with present and potential applications to various types of pharmaceutical aerosols.

Dr. Mina pointed out the many advantages of aerosols as compared with non-aerosol pharmaceutical products and presented a review of the growth of the various aerosol product types in general and the pharmaceutical aerosols in particular.

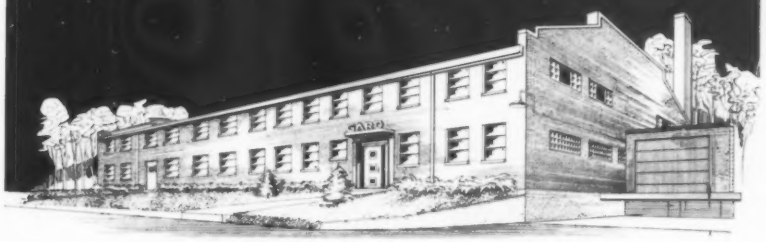
The talk was one of a series by Dr. Mina for pharmacy groups. He predicted that sales of pharmaceutical aerosols will increase by seven to ten-fold within the next few years.

Dr. Mina estimated that there are about 50 different pharmaceutical aerosol products on the market at present, with many more being tested. The 1956 production of pharmaceuticals packed in aerosol form amounted to between 2.3 and 2.5 million units. This should rise to between four and five million in 1957 and by 1960 will hit 15 million, Dr. Mina predicted. Hydracortisone type antiseptic sprays, spray bandages and inhalants are now being marketed in good volume and should grow substantially over the next few years, Dr. Mina said.

Francis A. Mina



NEW HOME OF GARD



offers NEW FACILITIES . . .
NEW AEROSOL TECHNICAL AIDS . . .
NEW AEROSOL "Controlled-Quality" METHODS

AIR CONDITIONED dust cleansed, humidity controlled production facilities assure product consistency and stability—*another Gard aerosol first!*

HIGH SPEED DRUG AND COSMETIC production lines, isolated and air cleansed, are designed and operated exclusively to meet the specialized needs for all types of pharmaceuticals and cosmetics.

SPECIAL PRODUCTION LINES, also air conditioned and humidity controlled and designed for quality filling of paints, insecticides and all other household products.

ANALYSIS AND FORMULATION SERVICE is provided by modern 1200 square foot Gard laboratory.

EXPANDED SHIPPING AND WAREHOUSE FACILITIES, all-weather truck and rail docks assure "on-schedule" deliveries of your merchandise where you want it, when you want it.

PRIVATE OFFICE AND LABORATORY FACILITIES are provided for your personal use on any visit to the plant.

Gard—through its new home at 1739 Harding Road in Northfield, Illinois—puts at your disposal years of experience as one of the country's oldest, most progressive companies in the aerosol field. Now—supplementing this know-how are the most modern, most flexible and most complete facilities ever devoted to the research, manufacturing and marketing of aerosol packaged sprays, foams and powders.

You are invited to investigate the possible application of these outstanding facilities to your production requirements. If your needs involve testing, analysis, formulation or marketing assistance we can also be of help. Call or write for further information.

GARD INDUSTRIES, INC.
The Greatest Name in Aerosols
1739 HARDING ROAD NORTHFIELD, ILLINOIS
Phone: Hillcrest 6-7400

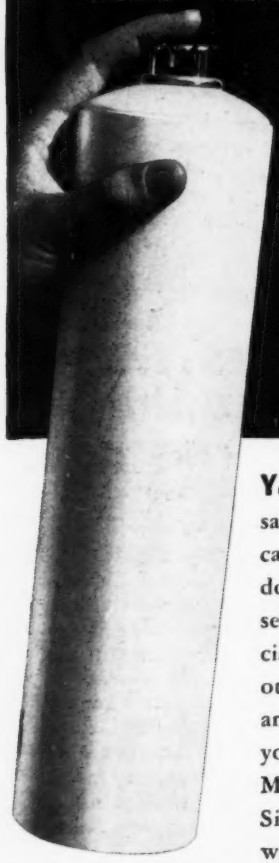
Why sell your products by the ounce?

You can now combine the accepted convenience of aerosols with King Size packaging, and King Size packaging means volume sales in quantity and in dollars.

YOU CAN NOW INCREASE YOUR VOLUME WITH TMC

55-75-132 CU. IN.

KING SIZE AEROSOL CONTAINERS



Working Pressure 240 psi ICC Approved

You need no longer limit your sales with small 8 and 12 ounce cans that don't hold enough to do the job. Whether you are selling to household, commercial, institutional, industrial or other markets, you sell more and customers use more when you sell in bigger containers. Manufacturers like TMC King Size Pressure Containers . . . wholesalers like them . . . dealers like them . . . users like them!

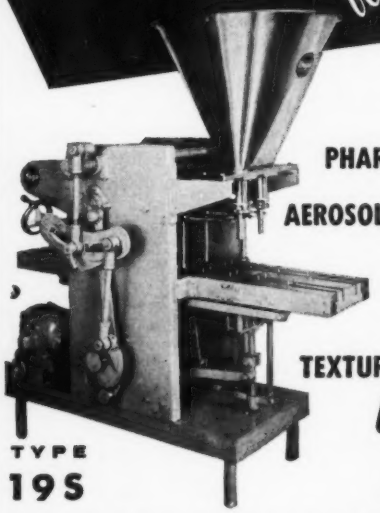
Get New Profit Building Ideas at Hollywood

Whether you sell fluid, viscous or dry materials, TMC King-Size Disposable Containers give you a merchandising weapon worth looking into at the CSMA Meeting, Hollywood, Florida.

TUBE MANIFOLD CORPORATION

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COSMETICS • PHARMACEUTICALS • AEROSOL INGREDIENTS • LIQUID SOAP • HEAVY TEXTURED PRODUCTS

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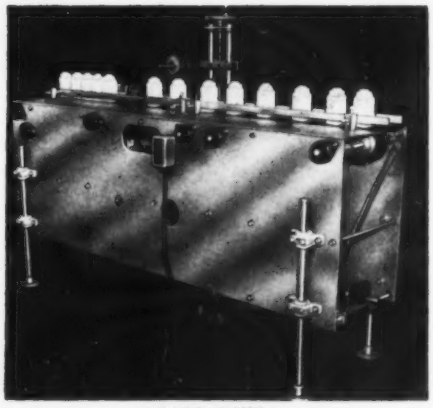
Builders & Designers Specializing in Filling Machines for Over a Quarter of a Century.
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CODE DATING MACHINE FOR AEROSOL CANS

Will mark the top or bottom or both at the same time



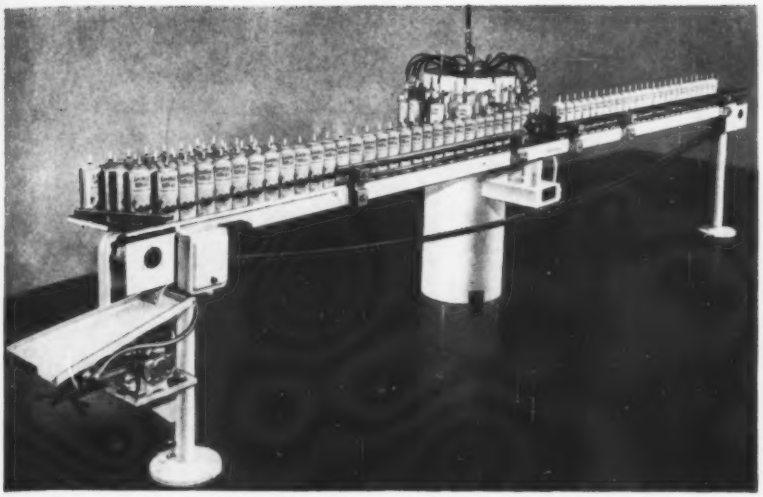
PATS. PEND.

Kiwi® Coders Corporation announces a new power-driven machine for economically and automatically code dating the concave bottoms of pressurized cans or flat bottoms of other round containers. Can also be used as a work table for affixing parts to cans.

Send details on your specific marking problems.
Literature available on all types of applications

Kiwi® Coders Corporation

4027 N. Kedzie Ave. • Dept. 5 • Chicago 18, Ill.



New rotary feed combination gassing, mixing machine of Alpha Engineering.

New Alpha Filler-Mixer

A new rotary feed combination gasing and mixing machine was introduced recently by Alpha Engineering & Machine Works, Inc., Mt. Prospect, Ill. Called "Alpha A-206 Roto Shake," the new unit moves aerosol containers along a pallet-type conveyor to a central rotary feed head where they are filled with propellant and shaken as they travel through the rotary feed cycle.

The machine is equipped to handle 12 and 16 ounce aerosol containers at the rate of 60 per minute with a 12-second shake cycle. Longer shake cycles may be obtained by slowing down the rate of feed. The rotary head contains 15 stations, and each valve unit is built with a "no-can, no-charge" control.

★

Gard Industries Relocates

Gard Industries, Wilmette, Ill., last month moved to new and larger quarters at 1739 Harding Rd., Northfield, Ill. The new plant provides separate air conditioned departments for filling aerosols for the drug and cosmetic fields and for private label filling of insecticides, paints and household products.

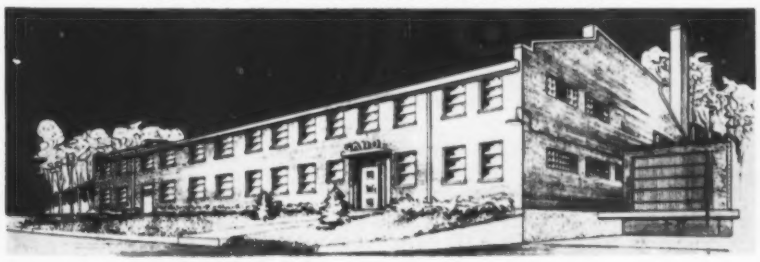
Also included in the new unit are complete mixing facilities, a 1,200 square foot fully equipped research laboratory, 10,000 square feet of floor space for the storage of solvents, and 5,000 square feet of space for storage of customers' finished products. Shipping facilities include rail sidings and truck docks.

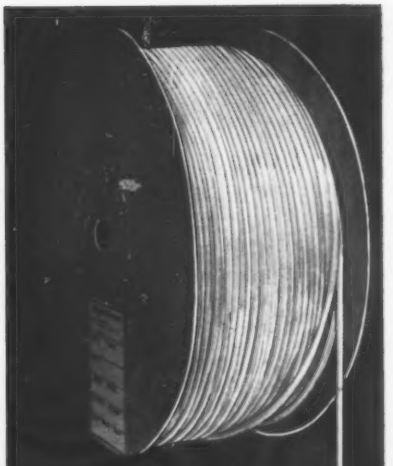
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New ATI Newsletter

Publication of its first newsletter featuring data on the latest developments in the aerosol field was announced last month by Aerosol Techniques, Inc., Bridgeport, Conn. Entitled "Pressure Gauge," the bulletin, which will be issued periodically, contains news on ATI company activities, including new products, new literature, and personnel and plant equipment changes. A special section is devoted to new developments in the aerosol field and related industries. Copies are available.

New home of Gard Industries, contract aerosol loaders.





Highest Quality
POLYETHYLENE TUBING for AEROSOLS

. . . Now available in neatly traversed spools . . . no kinks no snarls!

Available on spools in lengths up to 3000 feet. Prevent costly delays—save time and money.

HYDRALENE NO. 35 polyethylene tubing will not split or crack, even with tight friction fits.

Features:

- Only finest quality virgin material.
- Close tolerances.
- Withstands severest tests for non-splitting or cracking.
- Also available in coils or cut pieces.

This tubing is the result of years of careful development work in the aerosol field.

Write today for free samples and Prices.

Hydrawlik

131 East First Ave
Roselle, New Jersey
Phone CHestnut 5-0368



CANCO IS KEEPING PACE WITH THE BOOMING AEROSOL INDUSTRY!

As fast as the aerosol industry is growing, Canco is expanding even more rapidly within it!

For example, Canco is building a much greater volume of pressure container sales and is regularly increasing its production facilities, all of which contributes to the industry's progress. Canco now makes pressure cans in every one of the Company's divisions, from coast to coast!

The Canco line is complete, too—all types, all sizes of containers in a choice of standard 1" cup-opening tops or various economical one-piece tops.

Canco pressure can specialists are constantly enlarging their "know-how" in containers, propellants, valves, product formulation, and container specifications. Let them help you solve your problem! No matter what your pressure product, conventional or totally new, Canco is eager and prepared to help you develop it.

In the coming months, you'll be hearing a lot more about Canco's many exciting projects in the aerosol field. During 1958, Canco will offer the first successful round-the-can lithography over a soldered side-seam. You'll also hear more about Canco's development of special combinations of propellant, valves and product to satisfactorily dispense pressure packed food items.

And—you'll be surprised with news of pressure cans made from novel materials!

* * *

Canco *is* growing, and with one aim in mind—to serve you better!

COME TO CANCO FIRST! AMERICAN CAN COMPANY

Production...

EQUIPMENT • MATERIALS • PROCESSING

Book Reviews

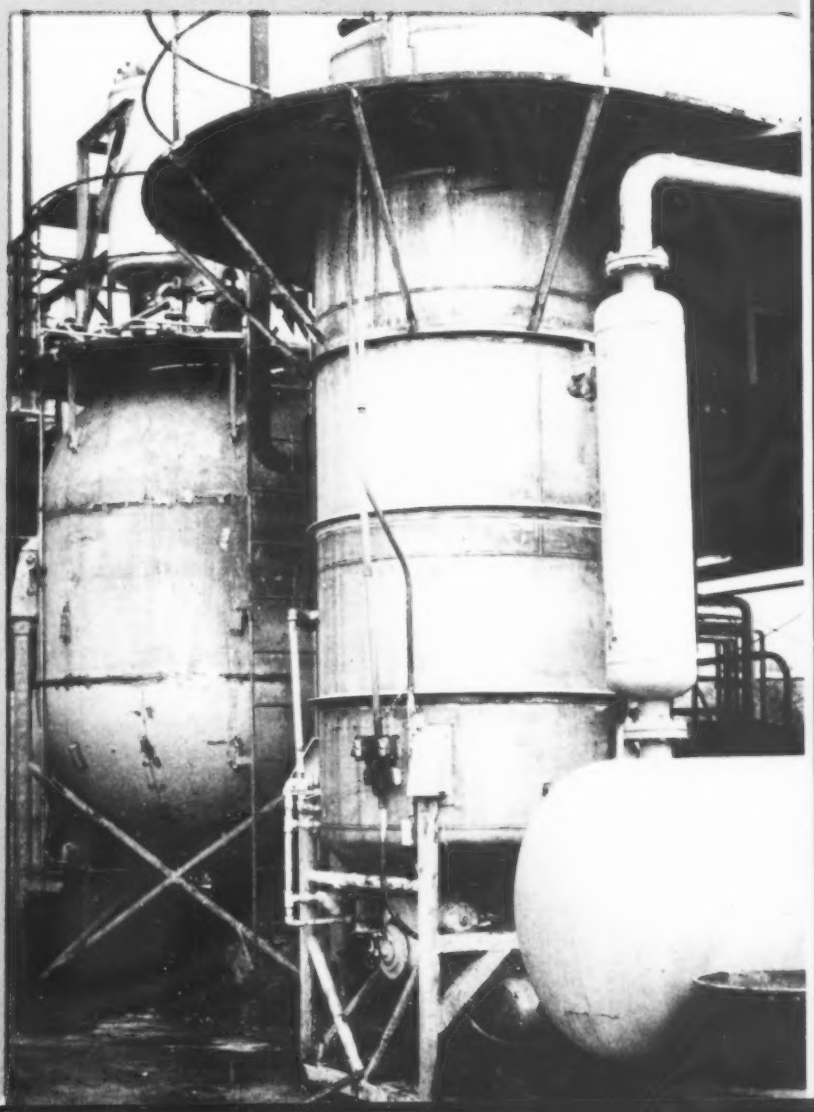
Production Clinic

Soap Plant Observer

Products and Processes

New Patents

Bulletins and Equipment



Cold sulfonation process units at Los Nietos plant of Pilot California Co., Los Angeles, produce sulfonic acids and their salt derivatives for use in cleaning compounds and synthetic detergents. In process sulfur dioxide maintains sulfonating temperatures at sub-zero, making possible materials of high stability. See P. 217.

HOUCHIN
Supplies Your Every Soap Need *from* KETTLES *to* WRAPPING MACHINES

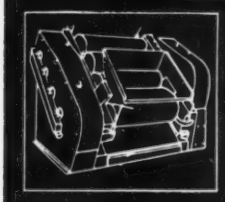
Whether you require one piece of machinery, or equipment for an entire soapery, Houchin can supply your every need.

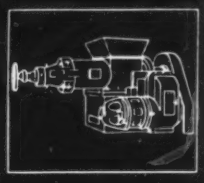
Such a breadth of experience assures you of machines designed not only to perform a single process, superlatively well—but also of machines which, you will discover, coordinate closely with the preceding and following processes.

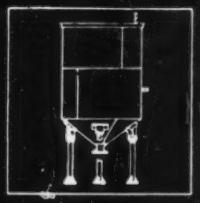
Specifically, Houchin builds:

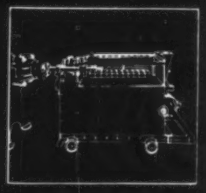
KETTLES
CRUTCHERS
AMALGAMATORS
MIXERS
SLABBERS
MILLS
PLODDERS
CHIPPERS & POWDER MILLS
LAUNDRY SOAP CUTTERS
TOILET SOAP CUTTERS
PRESSES
AND MANY OTHER KINDRED MACHINES.

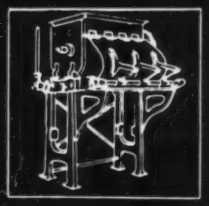
Whether you need a single one of these machines or equipment for an entire soapery, it will pay you to write us and get information about the complete Houchin line of soap machines.

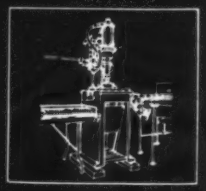

MILLS

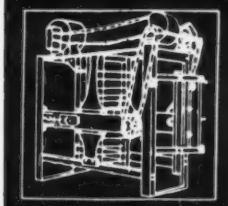

PLODDERS

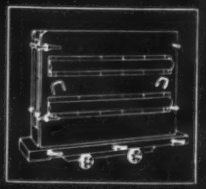

KETTLES

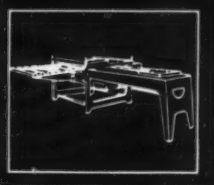

TOILET SOAP CUTTERS


AMALGAMATORS


PRESSES


SLABBERS


SOAP FRAMES


LAUNDRY SOAP CUTTERS


VARIABLE SPEED CRUTCHERS

HOUCHIN MACHINERY CO., INC.

HAWTHORNE, NEW JERSEY, U. S. A.

Manufacturers of Soap Making Machinery for over a Century

Improving Soap with Nonionics

PRESENCE of a suitable ethylene oxide condensate in bar soap improves detergency, foaming properties, texture, brilliance, translucency, and keeping properties; reduces brittleness and the tendency to crack or flake. Even high quality soaps incorporating protective colloids and antioxidants profit greatly from a two to five per cent addition of certain ethylene oxide condensation products, which for brevity's sake shall be termed oxethylates.

A series of storage tests was conducted in a closed glass cabinet, removed from direct light and located in a room in which humidity is kept very low. A high grade, unbuilt, 80 per cent fatty acid soap, without additives was used as a control for 11 similar soaps each containing three per cent of a different surface active agent. Changes in the soaps with and without additive were checked after one, three, six, and 18 months, storage.

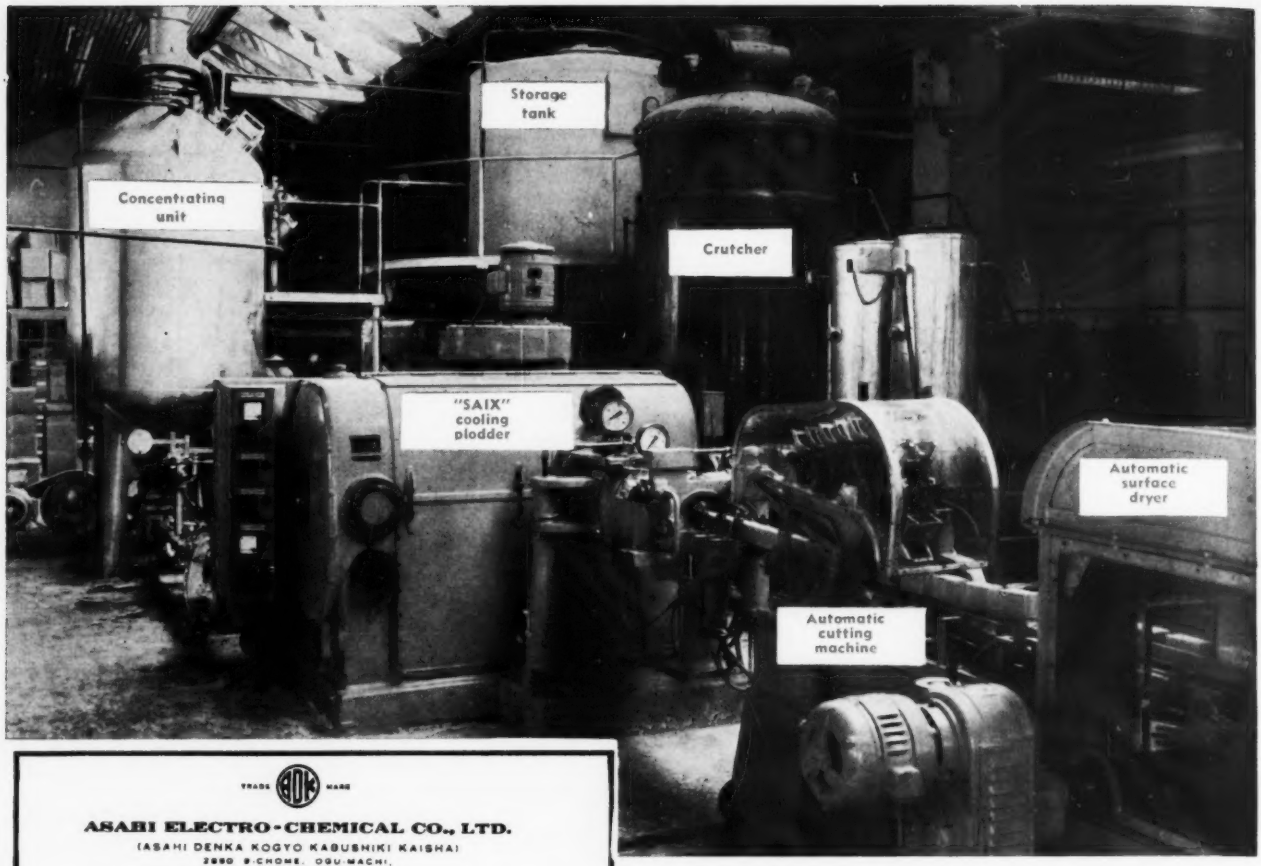
In this storage test, soap without additives showed a yellow cast after one month; yellow patches and further darkening after three months; brown patches, further discoloration, and incipient rancidity after six months; strong discoloration, patchiness, and marked rancidity after 18 months. Comparative results of the whole series of checks are listed in table 1.

The tests listed in table 1 were conducted with unbuilt soap of 80 per cent fatty acid content. In a similar series the same nonionics were added to soap containing a filler and an antioxidant, and finally to so-called luxury grade toilet soaps made from the purest raw materials and also containing an antioxidant. After six months' storage the beneficial effect of fatty alcohol and fatty amino oxethylates was clearly demonstrable in both groups. Changes through oxidation are inhibited, discoloration greatly reduced and marginal translucency improved. (These effects are documented by a set of excellent photographs.)

A number of soaps are still undergoing tests. These include bars incorporating special or unusual fillers, unusual fats, or special additives. Although the experiments have not yet been completed

Table 1. Storage Properties of Unbuilt Soap with Various Additives

No.	Additive	One month	Three months	Six months	18 months
1.	Unbuilt soap	Yellowish	Yellows further, yellow patches	Distinct further discoloration, light brown patches, begins to turn rancid	Strong discoloration, rancid, brown patches
2.	Oleyl alcohol oxethylate	Very slight yellow tinge	Good brilliance, much lighter than 1	Yellowish, still much lighter than 1	Lighter and markedly more translucent than 1, no rancidity no brown patches, good consistency and brilliance
3.	Lauryl alcohol oxethylate	Slight yellow tinge	Like 2, only a shade more yellow	Like 2	Slightly lighter than 2, good consistency and brilliance
4.	Lauryl alcohol oxethylate	No change	Like 2	Like 2, slightly less brilliance	Shade lighter than 2, good consistency and brillance
5.	Alkyl phenol oxethylate (polyglycol ether)	Yellow tinge, trace of brittleness	Lighter than 1, but yellowish, trace of brittleness	Color like 2, slightly flaky and brittle	Lighter than 2, slightly flaky, brittle
6.	Polyethylene oxide wax (6000)	Flaky, lighter than 2	Flaky, lighter than 2, poor consistency	Lighter than 2, strong flaking	Much lighter than 2, strong flaking, hard, brittle, duller than 2
7.	Oleic acid diethanolamide	Yellowing	More yellowing, consistency and brilliance still good	Further yellowing, consistency and b illiance good	Lighter and more translucent than 1, consistency indifferent, no brown patches, no rancidity
8.	Lauric acid diethanolamide	Yellowing	More yellowing, consistency indifferent	Like 7	Like 7
9.	Lauric acid moncethanolamide	Yellow cast, slightly brittle	Yellow cast, slightly brittle	Yellow cast, slightly brittle	Yellow cast, lighter than 2, but cracking brittle
10.	Myristic acid moncethanolamide	Like 9	Like 9	Like 9	Like 9, but harder
11.	Oleyl amino oxethylate	Better than 2, yellows slightly	Yellows slightly	A little lighter than 2	Lighter than 2, good translucency, no patches, better consistency than 2, good brilliance
12.	Lauryl amino oxethylate	Shade better than 11	Like 11, only a little lighter	Like 11, but slightly lighter, consistency better	Like 11, but better consistency



TRADE ADK MARK

ASAHI ELECTRO-CHEMICAL CO., LTD.

(ASAHI DENKA KOGYO KABUSHIKI KAISHA)
2880 8-CHOME, OGU-MACHI,
ARAKAWA-KU, TOKYO
JAPAN

CABLE ADDRESS: TOKYOADEKA TOKYO

Tokyo, 28th February 1957

Messrs.
Meccaniche Moderne,
Casella Postale 388,
Busto Arsizio,
Italy.

Dear Sirs:

Re: - S A I X Cooling Plodder.

We are pleased to inform you that the Laundry Soap Manufacturing Plant, comprising a SAIX-4c Cooling Plodder and sundry auxiliary machines, supplied to us around the end of 1955 through your agents in Japan, Messrs. C. Correns & Co., Ltd., Tokyo, is working to our entire satisfaction.

We are also glad to confirm that the laundry soap produced with the aid of your cooling plodder is of a better quality than that we have been manufacturing up to now by ordinary cooling methods. The soap has very good washing and lathering qualities due to the milling equipment incorporated in the machine. The outstanding merits of your cooling plodder, however, are its labour-saving qualities, and the fact that by its application the amount of scrap soap is reduced to minimum.

We believe that our satisfaction with your cooling plodder is best illustrated by the fact that we have ordered from you in September last year two more SAIX-4c Cooling Plodders, one of which has just arrived, while the second one is expected to arrive here in June.

We have no hesitation to recommend your cooling plodders, as well as all other machinery you are manufacturing, to any prospective buyer.

Yours faithfully,

ASAHI ELECTRO-CHEMICAL Co., Ltd.

Photograph of a "SAIX-PISONI" Automatic type plant for the continuous production of plodded soap.

Range of applications:

• **Plodded soaps from either low or high titer fats.** • **Pure soaps, 62% fatty acids, retaining natural moisture (28-30%).** • **Soaps containing up to 40% moisture.** • **Soaps filled with silicate or other builders, their fatty acids contents lowered to 35%, and all natural moisture retained.** • **All kinds of opaque concentrated soaps, either pure or filled, and based on low or high titer fats.** • **Concentrated translucid soaps without any addition of glycerine, alcohol or other chemicals.** • **Translucid or opaque toilet soaps.**

Special features and savings:

• **Absolutely no changes in fatty acids and moisture percentages between the hot liquid soap fed into the plant and the resulting extruded bar.** • **Soaps crystallized up to 100% in "Beta Phase", consequently of excellent lathering characteristics.** • **Little cooling water required at temperatures between 15°C. and 30°C.** • **One man can operate the plant.** • **Maximum economy in space.** • **Soaps can be cut, stamped and packaged without scraps.** • **Extremely easy to operate: minimum maintenance required.** • **No distortion or twisting of soap billets during storage.** • **Automatic perfuming device.** • **100% savings on steam, 50% on cooling water, 50% on electrical power, 70% on labor.**

Production capacities:

1/10, ¼, ½, 1, 2, 3 tons per hour and more.

45 "SAIX-PISONI" PLANTS MANUFACTURED IN THREE YEARS

MECCANICHE MODERNE are also makers of: continuous plants for toilet soaps; continuous sulfonating plants; spray-driers for the production of soap and detergent powders in bead form.

MECCANICHE MODERNE

CORSO SEMPIONE, 51 — BUSTO ARSIZIO (Italy)

U. S. SALES REPRESENTATIVES
AMERICAN ASSOCIATES
520 Fifth Ave. — N. Y. 36

Table 2. Weight Loss in Storage of Soap With and Without Additives

No.	Additive	Per Cent Weight Loss After one month	18 months
1.	Soap, unbuilt, 80 per cent F.A.	5.75	11.63
2.	Oleyl alcohol oxethylate	2.97	9.49
3.	Lauryl alcohol oxethylate II	4.91	9.51
4.	Lauryl alcohol oxethylate I	4.54	9.10
5.	Alkyl phenol oxethylate	5.37	10.57
6.	Polyethylene oxide wax (6000)	4.38	8.41
7.	Oleic acid diethanolamide	3.14	6.57
8.	Lauric acid diethanolamide	2.94	6.65
9.	Lauric acid monoethanolamide	3.56	8.04
10.	Myristic acid monoethanolamide	4.00	8.04
11.	Oleyl amino oxethylate	3.87	7.73
12.	Lauryl amino oxethylate	2.91	6.54

the following benefits derived from ethylene oxide condensation products have been clearly established: improved texture, color stability, surface brilliance, marginal translucency, and fragrance retention; inhibition of rancidity; better detergency through increased lime dispersing power; and possibly even easier milling.

Physical Properties

IN addition to the visually perceptible changes of soap in storage some physical properties were checked. These included weight loss owing to dehydration in storage. The comparison covered unimproved soap and soap bars incorporating the same group of ethylene oxide condensation products used in the previous experiments. Table 2 lists weight losses after one and 18 month's storage.

Moisture loss in storage is greatest in the soap without any additives. The various ethylene oxide condensates used as additives inhibit dehydration of the bar to varying degrees. After one month the degree of ethoxylation of the additive appears to govern the degree of protection afforded against drying out. After 18 months the values change and the lauryl and oleyl amino oxethylate are shown to be the most effective anti-dehydration agents over a prolonged period of storage. Good protective action is displayed also by the fatty acid alkylolamides but their presence in the soap formulation requires additional additives to insure good texture.

None of the additives tested appears to exert an appreciable influence on maintenance of minimum free alkali, on resistance to attrition, or on tendency to mushiness. In toilet soaps the cold water foaming power is usually not as important as in household soaps, where it can be enhanced by addition of alkyl aryl sulfonates.

Hardness and Elasticity

THE next series of tests dealt with surface hardness, break resistance, and elasticity of bar soaps incorporating the same group of nonionic surface active agents. The Haake consistometer was used for this purpose. This instrument features various attachments permitting its use for the measurement of viscosity, elasticity, resistance to breaking, and surface hardness at temperatures ranging from −60° to +300°C.

To measure surface hardness, a hard metal cone of set dimensions weighted with 300 grams, is permitted to penetrate the mass to a depth and for a period of time sufficient for the material surrounding the cone to reach its flow point. This flow point equals the ratio of cone weight/surface of the cone base.

Hardness was determined also by the Shore hardness gage, which measures depth of penetration by a normal needle. While the Haake instrument deals with true surface hardness, the Shore needle supplies information on the overall hardness of a soap bar.

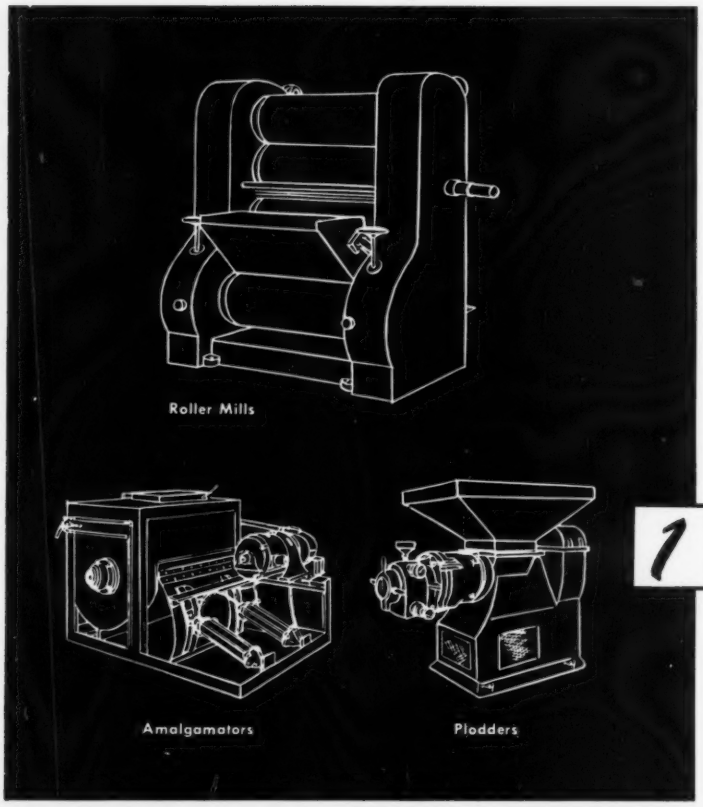
Break resistance and elasticity of the soap bars were measured by the Haake gage. The test bar rests on two supports placed 40 mm apart. A small round die is applied to a point between the supports and weighed down until breakage occurs. A similar set up is used for the elasticity test, but 250 grams less weight was applied than the weight needed for breaking the bar.

The highly ethoxylated additives were found to yield higher values for surface hardness, but none of the formulated bars equaled the surface hardness of soap alone. In the case of the fatty amine ethoxylates, the choice of the amine also played a part. Bars incorporating polyethylene oxide wax showed different surface hardness values at different points, which means that such soap is not homogeneous. Results for the Shore hardness test and the break resistance tests showed analogous trends. Good elasticity is shown by bars formulated with fatty amino and fatty alcohol oxethylates. Considered in combination with their surface hardness and break resistance these bars appear to have the most desirable physical characteristics. Polyethene oxide wax gives low elasticity values and the diethanolamides very high ones.

However, an addition of 0.75

Table 3. Hardness and Elasticity Characteristics

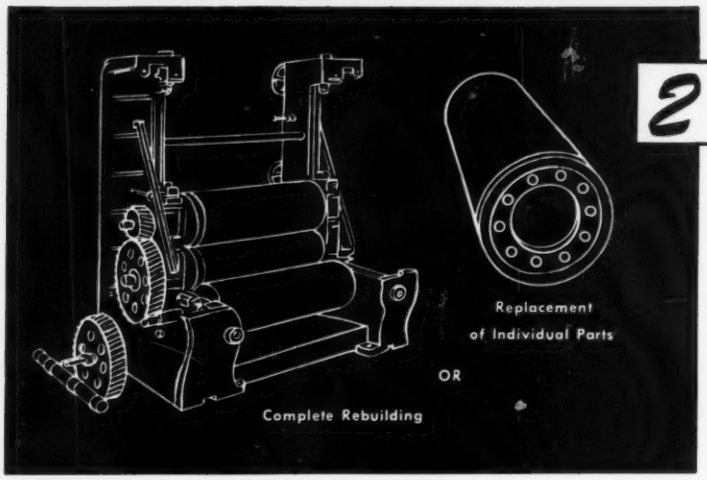
No.	Additive	Surface hardness	Resistance to breakage 10^{-2} mm	Elasticity 10^{-2} mm	Shore hardness
1.	Soap, unbuilt	100	10.8	49	64
2.	Oleyl alcohol oxethylate	91	10.5	48	62
3.	Lauryl alcohol oxethylate II	84	10.3	48	58
4.	Lauryl alcohol oxethylate I	72	8.0	46	55
5.	Alkyl phencl oxethylate	72	8.8	40	57
6.	Polethylene oxide wax (6000)	66-99	6.3	33	50-60
7.	Oleic acid diethanolamide	63	7.5	68	59
8.	Lauric acid diethanolamide	63	6.8	61	50
9.	Lauric acid monoethanolamide	67	8.0	47	51
11.	Oleyl amino oxethylate	71	9.3	54	56
10.	Myristic acid monoethanolamide	73	8.5	48	56
12.	Lauryl amino oxethylate	83	8.8	50	60



Lehmann provides 2 COST-CUTTING APPROACHES *to more profitable soap production*

1 LEHMANN SOAP FINISHING MACHINES

. . . A complete line of standard units for improving returns from present operations or **"custom" machines built to suit your changing requirements.** Mills of all sizes, Preliminary and Finishing Plodders, Tilting Type and Bottom Dump Amalgamators . . . designed and engineered with the user in mind, in every construction detail.



2 LEHMANN CERTIFIED FACTORY RECONDITIONING SERVICE

. . . An engineered approach and investigation into all factors contributing to the operational efficiency of machines you are now using. Whether you want a small part replaced or a large production mill completely rebuilt, Lehmann is equipped to do the job. All rebuilding is done on modern precision equipment, to assure first quality work.

Lehmann is completely familiar with the mechanical problems involved in processing to past standard formulations and to the newer detergent types. Make use of Lehmann services on any processing machine problem.

Your problem is no further away than your telephone. Let's talk it over.

LEHMANN®

J. M. LEHMANN COMPANY, Inc.

COAST-TO-COAST SERVICE

Moore Dry Dock Company
Oakland, California

Lammert & Mann Co.
Chicago 12, Illinois

J. M. Lehmann Co., Inc.
Lyndhurst, New Jersey

per cent of the polyethylene oxide wax can be added without unfavorable effect on soap consistency. Such a low percentage formulated into soap in combination with perfuming materials greatly enhances the lasting qualities of fragrance in soap.

Summary

THE above test series show that the addition of certain nonionics to soap improves texture and homogeneity, reduces the tendency to cracking and flaking, increases brilliance and foaming properties, particularly in cold water. Fragrance retention is improved. The soap becomes more economical and more efficient in hard water use owing to the lime dispersing power of the syndets. The high detergency of fatty alcohol oxethylates and fatty amine polyoxethylates adds further to the washing power of such formulated soaps. The latter appear to be the most effective against rancidity in soap.

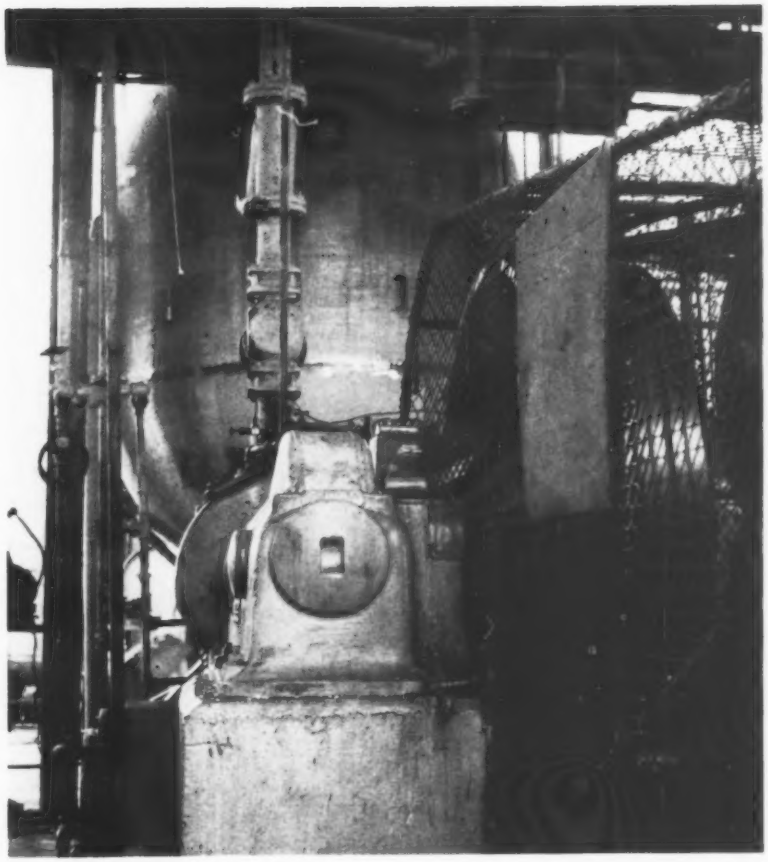
The presence of ethylene oxide condensates in soap facilitates incorporation of other additives such as complexing agents, antioxidants, CMC, superfatting agents, germicides and deodorants.

Translated and abstracted from an article by Hans E. Tschakert, Chem. Werke Huels A. G., *Seifen-Oele-Fette-Wachse*, 1957, Oct. 9, pp. 610-612 and Oct. 23, pp. 651-654.

—★—

Improves Sulfonation

Sulfonic acids and their salt derivatives for use in cleaning compounds and detergents are now being made commercially in concentrations averaging 98 per cent without loss in stability, odor and color properties, it was announced early this month by Pilot California Co., Los Angeles. This achievement is due to Pilot's sulfonation process being conducted at below freezing temperatures. At the firm's Los Nietos plant sulfonic acids and sulfonates are being made by sulfonation with sulfur trioxide. The reaction takes place in a solution of liquid sulfur dioxide which acts not only as a readily removable solvent but also as a self refrigerating medium.



Compressor in foreground supplies refrigeration for Pilot of California sulfonator at Los Nietos, Calif. Process is carried on at temperatures below freezing.

Prior to perfection of this process it was considered extremely difficult to produce sulfonic acids at concentrations of and exceeding 95 per cent without impairment of their stability or color and odor properties. Materials made by the cold process are said to keep indefinitely and to be unaffected by storage in plain steel containers. Pilot is currently offering sulfonic acids made by this process from warehouse stocks in New York, Chicago, and Los Angeles.

—★—

"Pinnacle" Described

"Pinnacle," all-purpose institutional cleaner is described in a new six page folder available from Calgon Co. Division of Hagan Chemicals and Controls, Inc., 323 Fourth Avenue, Pittsburgh, Pa. Designed for cleaning surfaces by hand in restaurants, food processing plants, schools, hospitals, hotels, institutions, etc., the product finds use also in hand dishwashing.

"Pinnacle" forms a seagreen solution in water which turns dull green when loaded with soil. The compound comes in four-pound foil wrapped packages, and in 100 and 325 pound drums.

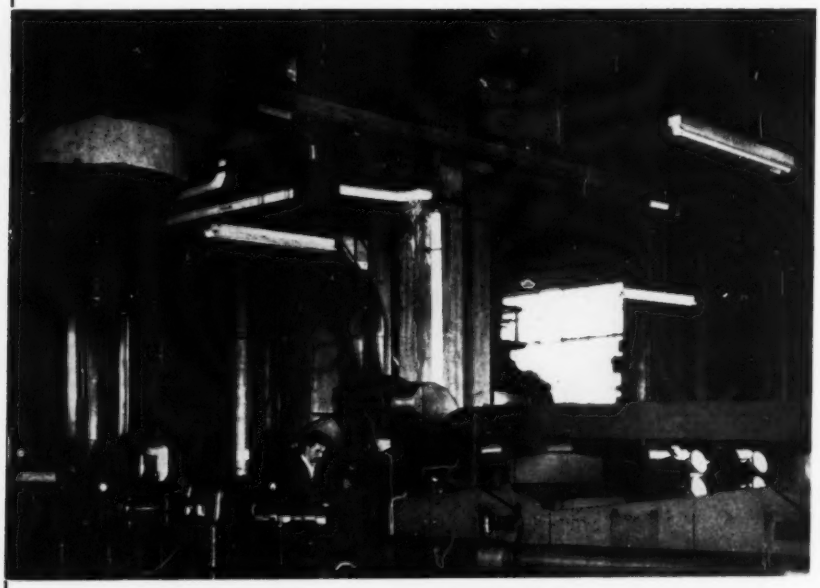
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Roche House Organ

The first issue of *Roche Aromatics* was published recently by the aromatics division of Hoffmann-LaRoche, Inc., Nutley, N. J. The ten-page, two-color, illustrated house organ announces commercial availability of completely synthetic linalool, linalyl acetate, geranyl acetone, and nerolidol, produced by Roche's new aromatics division and by a Roche-developed synthesis.

Specifications of the four aromatics currently offered are included in the bulletin.

Continuous Soap Plants



Photograph of a MAZZONI soap plant automatically producing one ton of household or toilet soap per hour. "S" is the silo for the storage of the dried soap rods. From the silo the rods are then passed through a line of finishing machinery for milled soap cakes.

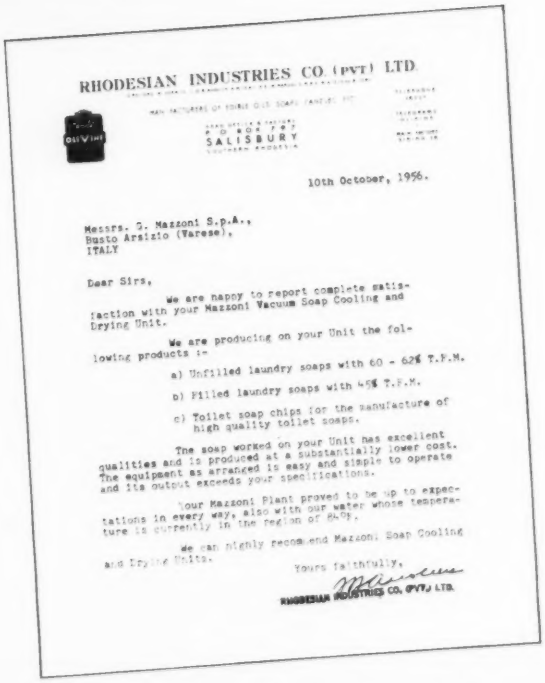
• • •

★ The Vacuum Process, over all other old and new cooling methods, enables you to make use of the water at the temperature available at any factory as it is possible to cool the soap at such a temperature because of the vacuum and the peculiar devices provided — without resorting to expensive cooling equipment—so that its consistency is satisfactory no matter what the cooling water temperature is.

★ Our manufacturing range also includes: plants for continuously sulphonating and spray-drying synthetic detergents in the form of hollow beads—continuous fat splitting and fatty acid saponification plants — continuous glycerine recovery and refining plants.

Advantages of the MAZZONI Process:

★ Small plant space; only one operator needed.
★ Saves 70% in steam, 50% labor, 40% electric power.
★ Operates at low temperatures, avoiding deterioration of soap.
★ Vacuum process gives better toilet soaps. Deodorizing effect reduces perfume needs. Smoother, grit-free cakes which wash off evenly. Improved lathering.
★ Transparent toilet and laundry soaps without addition of glycerine, alcohol, sugar, and any other additives.
★ Complete installations (mixers, mills, plodders, cutters and stampers) for milled toilet soap and soap flakes.
★ Since 1945 more than 160 plants have been installed in different countries of the world.
★ Laundry soaps, pure from 62% fatty acids upwards or filled from 35 to 62% fatty acids, ready for pressing and immediate packing without slabbing, cutting, etc. Automatic perfuming device included.
★ Suitable for adaptation in any soap factory, —a compact, low-cost vacuum process, continuous from neat soap to pressing and wrapping.
★ Soaps showing a beta phase content from a minimum of 75 percent to a maximum of 100 percent. Analyzed in the laboratories of Procter & Gamble Company, Cincinnati. Analysis is given with their permission.
★ Plants for outputs of one-quarter-ton, half-ton, one ton, two tons, three tons or higher per hour.



RHODESIAN INDUSTRIES CO. (PVT.) LTD.

P. O. BOX 787
SALISBURY

10th October, 1956.

Messrs. G. Mazzoni S.p.A.,
Busto Arsizio (Varese),
ITALY

Dear Sirs,

We are happy to report complete satisfaction with your Mazzoni Vacuum Soap Cooling and Drying Unit.

We are producing on your Unit the following products :-

a) Unfilled laundry soaps with 60 - 62% T.F.M.

b) Filled laundry soaps with 44% T.F.M.

c) Toilet soap chips for the manufacture of high quality toilet soaps.

The soap worked on your Unit has excellent qualities and is produced at a substantially lower cost. The equipment as arranged is easy and simple to operate and its output exceeds your specifications.

Your Mazzoni Plant proved to be up to expectations in every way, also with our water whose temperature is currently in the region of 84°F.

We can highly recommend Mazzoni Soap Cooling and Drying Units.

Yours faithfully,

RHODESIAN INDUSTRIES CO. (PVT.) LTD.

For further detailed information, write to

G. MAZZONI, S. p. A.

Busto Arsizio, (Varese) Italy

Cable address: Cosmazzoni, Busto Arsizio

Book Reviews

Chemical Data Handbook

"Handbook of Chemical Data", edited by Frederick W. Atack, Industrial Processes Development, Ltd., Kingston, Ont., Canada. Reinhold Publishing Corp., New York, September 1957, pp. 627, cloth bound, four inches by six and one half, price $6.75.

This pocket size book presents in most accessible form a wealth of information which every chemist needs no matter whether he is engaged in production or research. Tables of physico-chemical constants occupy about 130 pages. Solubilities, refractive indices, dissociation constants, refractive index liquids, properties of minerals, general properties of inorganic and of organic compounds are tabulated. Qualitative and volumetric analysis is dealt with, and factors for quantitative analysis are listed. Conversion tables for weights and measures and for thermometric scales are included.

—★—

Scientific Man Power

The critical problem of how to recruit scientific manpower of sufficiently high quality and quantity to satisfy industrial and government needs is dealt with in two privately published books. *Engineering Manpower—How to Improve Its Productivity* is a research report by nine students at the Graduate School of Business Administration at Harvard University in Boston, Mass. The 162 page, paperbound publication, compiled as a "special report to management," surveys the philosophy, policies, and practices of American industrial concerns toward their technical personnel, draws certain conclusions and offers some remedial suggestions. The authors find that "generally speaking, engineering and technical talent is being wasted to considerable degree. This fact in our (the authors') opinion, influences the attractiveness of the engineering profession adversely. Thus it may be a contributing factor to the current shortage."

Copies of this report are available from Engineering Management Reports, P.O. Box 161, Cambridge 38, Mass. Price $18.50 per copy.

Shortage of Scientists—What Industry Can Do About It is the title of a 96-page paper bound booklet published by Victor Chemical Works, Chicago 6. The publication incorporates the 50 best entries in a Victor sponsored "talent scout contest" in which men and women in industry and education were invited to submit ideas on how to stimulate young people's interest in science and engineering careers. Authors of the 20 winning entries were given the opportunity to nominate a 1957 high school graduate of their choice for a four year scholarship.

Copies of the booklet are available from Victor who collated and published the essays as a service to industry.

—★—

Dow "Chlorothene" Booklet

Properties and uses of "Chlorothene" brand of inhibited 1,1,1-trichlorethane are outlined in a 16-page two-color booklet published recently by Dow Chemical Co., Midland, Mich. Introduced in 1954, "Chlorothene" is a solvent, designed for cold cleaning applications by dip, bucket, spray or wipe methods. Among other uses, it is suitable for incorporation in fabric cleaners, pressure package formulations, and spray cleaners for electrical equipment.

—★—

Fatty Alcohol Uses

Main uses and applications of lauryl, cetyl, stearyl, and oleyl alcohols are shown on a new fact sheet available from M. Michel and Co., 90 Broad Street, New York 4. Industrial consumers of these alcohols include detergent and soap manufacturers, textile and leather specialty makers, pharmaceutical, cosmetics, and petroleum specialties formulators, and a number of other industries. Michel offers its line of fatty alcohols under the trade name "Cachalot."

—★—

Polyvinyl Alcohol Bulletin

Polyvinyl alcohols produced under the trade name "Lemol" by the Chemical Division of Borden Co., 350 Madison Ave., New York 17, are described in a recent bulletin. These compounds are said to act as soil suspending and anti-redeposition agents in detergent formulations. They function also as both protective colloids and surfactants in emulsion systems for oil in water dispersions. Thus, a uniform dispersion may be obtained by stirring certain oils and waxes into a two to five per cent "Lemol" solution with good agitation.

These polyvinyl alcohols are nonionic and may be used to form emulsions in acid or alkaline, anionic, cationic or nonionic solutions, provided certain specific precipitants or gelling agents are not present.

Plastic films made from "Lemol" polyvinyl alcohols are suitable for water soluble unit packaging of powdered detergents, bleaches, sanitary chemicals and other specialties.

Further information on specifications, solutions, compounding, properties, and industrial uses of "Lemols" is supplied in Borden's 24-page bulletin M-13-T.

—★—

Hydrogen Peroxide Data

A new booklet describing the application of hydrogen peroxide for epoxidation and hydroxylation of olefins was issued recently by Solvay Process Division of Allied Chemical & Dye Corp., New York. The bulletin also contains a review of the uses for the products resulting from this process, which include surface active agents, stabilizers, epoxides, plasticizers, lubricants and drying oils. Copies of the booklet may be obtained from the company at 61 Broadway, New York 6.

Choosing a fluid mixer for **top performance**

You can get better mixing, and avoid many regrets, by asking yourself these five important questions before you buy a mixer for fluids:

1. *Can I be sure, in advance, that I'll get the uniformity I want, as fast as I want it?* You can—when you mix with LIGHTNIN Mixers. Every LIGHTNIN is guaranteed, unconditionally, to do the job you expect it to do.

2. *How can I get ready to meet a change in mixing requirements?* Simply buy with an eye to your future needs. One good way to keep your mixing operation flexible: use LIGHTNIN Portable Mixers. You can clamp them on any open tank; switch to a different vessel later and change shaft length and propeller size to meet the new requirements.

Caution: Be sure the mixer is sized big enough now to handle the toughest job you'll give it.

3. *Will I be able to get replacement parts in a hurry if I ever need them?* You avoid waiting for special parts when you use LIGHTNIN Mixers. They're built entirely of standard interchangeable components—always in stock, ready to ship on shortest notice.

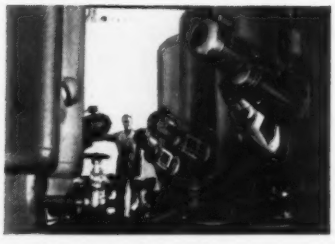
4. *Do some mixing jobs require special impellers?* Careful laboratory and field tests prove you can handle at least 95% of your fluid mixing needs with a standard 3-blade propeller (or standard flat-blade or curved-blade turbine, on large mixers). The exact balance of *flow* and *turbulence* you need is easily obtained by varying the size and speed of the impellers. You get guaranteed mixing results with lower-cost standard impellers when you mix with LIGHTNINs.

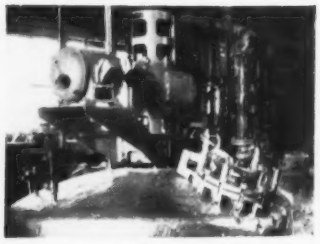
(You can, of course, get a wide choice of LIGHTNIN special impellers for those few mixing jobs requiring them.)

5. *Where can I get prompt, competent service on fluid mixing?* Just call your LIGHTNIN Mixer representative. He knows fluid mixing thoroughly—can quickly give you a *guaranteed* recommendation. And he's near you—look him up in Thomas' Register. Or write us direct.



GET RAPID DOUBLE-ACTION MIXING, or slow gentle stirring, in any open tank, with any of 30 LIGHTNIN Portable Mixers in sizes from ⅛ to 3 HP. No baffles are needed in the tank, and maintenance is extremely simple.





IN TANKS OF ANY SHAPE, you can get just-right mixing to bring your product quickly to uniformity. Propeller-type LIGHTNINS (left) are supplied for open or closed tanks. Turbine-type LIGHTNINs (right) are available in hundreds of power-speed combinations, with interchangeable speeds, in sizes from 1 to 500 HP.

WHAT SIZE AND TYPE of mixer do you need? Check here for latest bulletins giving full description, packed with helpful facts on mixing:

- ☐ Turbine, paddle, propeller types: top or bottom entering: 1 to 500 HP (B-102)
- ☐ Propeller types; top entering: ¼ to 3 HP (B-103)
- ☐ Portable: ⅛ to 3 HP (B-108)
- ☐ Side entering: 1 to 25 HP (B-104)
- ☐ Laboratory and small-batch production types (B-112)
- ☐ Condensed catalog showing all types (B-109)
- ☐ Quick-change rotary mechanical seals for pressure and vacuum mixing (B-111)
- ☐ Data sheet for figuring mixer requirements (B-107)

Check, clip, and mail with your name, title, company address to:

MIXING EQUIPMENT Co., Inc., 167-n Mt. Read Blvd., Rochester 11, N.Y.

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

Lightnin® Mixers

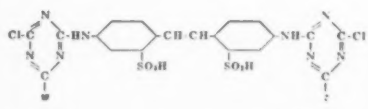
MIXCO fluid mixing specialists

NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine. MacNair - Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be $1.00 per copy.

No. 2,802,789. Polyoxypropylene Glycol Disulfate Detergent Compositions, patented by Richard D. Stayner, Berkeley, Calif., assignor to California Research Corp., San Francisco. Patented is a heavy duty detergent composition containing as essential components about 10 to 40 parts, by weight, of a surface-active polyoxypropylene glycol disulfate having a molecular weight from about 1000 to about 3000, and 90 to 60 parts, by weight, of an alkaline water-soluble calcium sequestering phosphate salt builder.

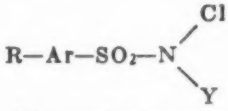
No. 2,805,999. Detergent compositions Containing Derivatives of 4:4'-Diaminostilbene-Disulfonic Acid-(2:2'), patented by Franz Ackermann, Binningen, Switzerland, assignor to Ciba Ltd., Basel, Switzerland. This patent deals with an optical bleaching agent consisting essentially of a water-soluble organic anion-active detergent selected from the group consisting of water-soluble soaps and synthetic organic, non-soap, anion-active, sulfonated detergents and 0.05 to 0.5 percent by weight of a water soluble salt of a colorless to substantially colorless derivative of 4:4'-diaminostilbene-disulfonic acid-(2:2') of the general formula



in which *w* and *z* each indicates an amino group in which at least one hydrogen atom is substituted by an unsubstituted alkyl group having 1 to 4 carbon atoms.

No. 2,811,478. Methods for Repelling Rodents With an Alkyl 2-Furoate Tetrachloride, patented by Manlio A. Manzelli, Bon Air, and Virgil H. Young, Jr., and Charles L. Harowitz, Richmond, Va., assignors to Virginia-Carolina Chemical Corp., Richmond, Va. The patent teaches a process of protecting materials which are susceptible to attack by rodents which comprises associating therewith an alkyl 2-furoate tetrachloride in which the alkyl group contains from 1 to 18 carbon atoms.

No. 2,809,937. Germicidal Detergent Composition, patented by Frederick William Gray, Belleville, N. J., assignor to Colgate-Palmolive Co., New York. Described is a germicidal detergent composition consisting essentially of from about 5 to about 95% of a water-soluble organic anionic detergent, and from about 0.01 to 50% of a sulfonamide compound having the formula:



wherein R is an alkyl group of about 10 to 15 carbon atoms, Ar is a benzene nucleus, and Y is selected from the group consisting of chlorine, hydrogen, alkali metal, and alkaline earth metal.

No. 2,809,980. Fungicidally Active S-Alkylisothiourea Salts of Reinecke Acid, patented by Johannes Thomas Hackmann, Amsterdam, Netherlands, assignor to Shell Development Co., New York. Claimed as a new compound is the simple S-alkylisothiourea salt of tetrathiocyanodiammonochromic acid.

No. 2,811,479. Insecticidal Bait Composition, patented by Robert J. Geary, Blue Point, N. Y. This patent covers an insecticidal particulate composition consisting of, by weight, about 33 parts of blackstrap molasses, 20 parts of anhydrous calcium sulfate, one part of o,o-dimethyl dithiophosphate of diethyl mercaptosuccinate, and 46 parts of powdered attapulgite.

No. 811,432. Herbicidal Composition, patented by Harold E. Bruner, Akron, O., assignor to Monsanto Chemical Co., St. Louis, Mo. An essentially dry herbicidal composition is described comprising a mixture of sodium pentachlorophenate as the essential active ingredient and a sodium lower alkyl xanthate herbicide in proportion sufficient to reduce irritation to skin and mucous membranes of persons exposed to the dry composition.

No. 2,809,146. Method of Destroying Bacteria Employing Mercuric Chloride Complexes of Pyridine, patented by Charles W. Osborn, Bartlesville, Okla., and Raymond C. Allred, Kirkwood, Mo., assignors to Phillips Petroleum Co. The patent teaches a method of inhibiting the growth of bacteria which comprises contacting said bacteria with a mercuric chloride complex of an ester of pyridine-2,5-dicarboxylic acid in an amount effective to inhibit the growth of said bacteria.

No. 2,811,477. Moth-Proofing Composition, patented by Thomas L. Cunningham, Larchmont, N. Y. Claimed is a liquid moth-proofing composition comprising a water-insoluble soap, a substantially solid fatty acid glyceride, an insecticidal halogenated diphenylethane, a hydrocarbon solvent and a dispersing agent which is a lower aliphatic alcohol.

No. 2,811,289. Aerosol Bomb Valve and Guard, patented by William E. Davis and Blanton J. Whitmire, Kirkwood, Mo., assignors to Whitmire Research Laboratories, Inc., St. Louis, Mo. This patent covers a valve guard on a pressure type container having a valve with a skirt providing a pan-shaped closure for the container, said closure having a bottom and a side wall with an exposed inner surface above said bottom, said valve having a vertically depressible hollow stem projecting above said bottom and a knob mounted on the upper end of said stem and carrying a nozzle, said guard comprising legs slideably engaging the inner surface of the side wall of the closure for axial movement with respect to the container, said legs being substantially as long as the distance from the top of said knob to the bottom of said closure when the stem is fully depressed and said legs being spaced apart to define an open space between them; a platform carried by said legs, said platform having a central section, and a clamp depending from said central section and embracing said knob, said clamp having an opening into which the nozzle of the knob extends, said clamp opening being aligned with the space between the legs, said platform extending above and beyond said knob and said nozzle.

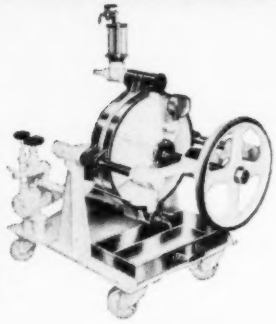
No. 2,811,390. Aerosol Valve Assembly, patented by Joseph L. Kiraly, La Grange Park, Ill. In combination with a container having an opening in one wall thereof, the patent claims a mounting cup secured in said opening, a tube holder secured in said mounting cup, a stem secured to said tube holder by a frangible web integral with said tube holder and stem, a flexible dip tube secured at one end to said tube holder, a weight secured to the opposite end of said dip tube, said weight having a bore in communication with the interior of said dip tube, and a spray tip secured to said mounting cup, said spray tip having a bore surrounding said stem, said tube holder having a bore communicating with the interior of said container and sealed from the bore of said spray tip by said frangible web, said spray tip being displaceable laterally to break said frangible web to permit pressurized contents of said container to flow through said tube holder into the bore of said spray tip for discharge into the atmosphere.

No. 2,809,147. Insecticidal Film-Forming Composition and Method of Making Same, patented by Irwin Hornstein, East Riverdale, Md. and William N. Sullivan, Washington, D. C., dedicated to the public. The invention consists of an insecticidal composition comprising a chlorinated hydrocarbon insecticide and a film forming chlorinated terphenyl.

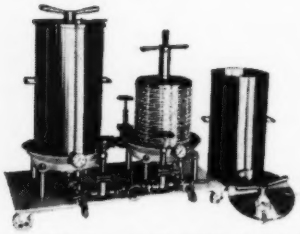
No. 2,809,897. Fungicidal Compositions, patented by Edward R. Christensen and John E. Tessieri, Beacon, N. Y., assignors to the Texas Co.,

Step Up Your Production with ERTEL ASBESTOS DISK FILTERS

1. EBW MODEL PORTABLE FILTER



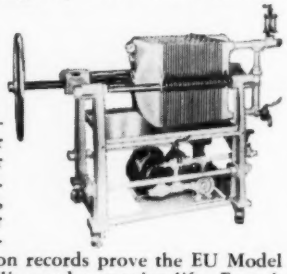
A highly efficient, readily portable filter that meets requirements for smaller capacities. Performance proven over the years in many hundreds of plants. Perhaps Ertel EBW model can economically speed up your production. Ask for full particulars.



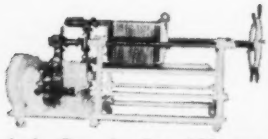
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Typical of Ertel craftsmanship is this Positive Seal Multi-Purpose Disk Filter. The outstanding feature of independent filtering elements provides positive seal of any type filtering medium. Cylinder prevents loss of liquid—particularly well adapted for volatile liquids as well as many other ordinary filtering requirements. Sizes available to hold from 4 to 30, 12⅛" dia. asbestos filter disks, filter cloths or filter paper in each cylinder. Single cylinder models available.

3. EU MODEL UTILITY FILTER



The Ertel Filter that's designed to use asbestos filter sheets, filter cloth, filter paper or filter cloth and filter aid. Standard units in bronze, nickel plated, stainless steel or hard rubber circulatory system. Comparison and operation records prove the EU Model unmatched in design, versatility and operation-life. Experience has shown that the great majority of filtration problems can be solved by your consultation with our engineers. May we help you?



4. EUS MODEL STAINLESS FILTER

Built in sizes to accommodate from 10 to 100 asbestos filter sheets, filter paper or filter cloth. Capacity 5 to 150 gpm. depending upon product.

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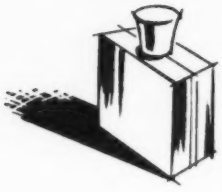
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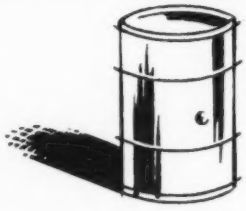
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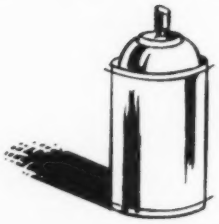
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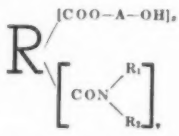
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New York. Covered is a fungus resistant composition consisting essentially of asphalt and 0.05-10 per cent of a salt of dithiofuroic acid selected from the group consisting of group I and II metal salts.

No. 2,808,359. Insect Repellent Compositions of Hydroxy-Alkyl Esters of Polybasic Organic Acids and Methods of Using Same, patented by Alfred F. Schmutzler, Summit, N. J. This patent teaches a method of repelling insects which comprises applying an insect repelling composition to the area to be made repellent, said composition including a relatively volatile organic liquid diluent and a viscous liquid ester of the following composition:



wherein R is the residue of a polycarboxylic acid selected from the group consisting of an aliphatic acid, aromatic acid and a cycloaliphatic acid, A is selected from the group consisting of an aliphatic group, an alkoxyaliphatic group and a polyalkoxyaliphatic group; R_1 and R_2 are selected from the group consisting of hydrogen, an aliphatic group, an aryl group, a cycloaliphatic group and a hydroxyalkyl group; x plus y equals 2-6, x equals 1-6, y equals 0-2, said ester being relatively nonvolatile upon live human and other animal skin under ordinary atmospheric conditions and said diluent serving to improve the effective repellency range of said ester, the composition being characterized by its long period of repellency.

★

New Emulsol Bulletins

Two new bulletins describing two of its emulsifiers, "Emcol E-607S" and "Emcol E-607," were issued recently by Emulsol Chemical Corp., Chicago, a division of Witco Chemical Co., New York. The folders provide complete information on specifications and applications of both products. Copies are available from the company, 75 East Wacker Drive, Chicago 1.

★

New Emery Booklet

A new four-page booklet describing its complete line of fatty acids was published recently by Emery Industries, Inc., Cincinnati. Included in the folder is a chart giving specifications and characteristics of all Emery fatty acid products. In addition, the bulletin contains a list of current technical literature on fatty acids and organic chemical products offered by Emery.

Products and PROCESSES

Peanut Oil Soap

Soap based on peanut oil requires less salt for graining out than soap made from tallow, according to phase diagrams at 90°C. of three different household soaps. The comparison included soap from 100 per cent peanut oil; from 80 per cent peanut oil and 20 per cent coconut oil; and from 90 per cent peanut oil and 10 per cent rosin. In comparison with diagrams of combinations wherein tallow replaces peanut oil, the soap based 100 per cent on peanut oil requires less salt whereas the others differ little. A. Prevot in *Rev. franc. corps gras*, 4, 263-267 (1957).

★

Bubble Solution

Air filled bubbles, rich in color, can be blown from an aqueous solution made from a powder or bar of the following composition:

	Per Cent
Fatty alcohol sulfonate	10-84
Borax	10-75
Gelatin	5-35
Gum tragacanth	0.5-25
Preservative	small amount

Such a solution is said to be harmless to the human organism. British patent 780,355 (1957) G. Korposoff, Stockholm, Sweden.

★

Nonionic Detergents

A nonionic composition of good detergency is based on a condensation product of one molecular proportion of an alkyl phenol with from six to 30 molecular proportions of ethylene oxide combined with a water-soluble derivative of cellulose, a beta-monohydroxy-ethylamide of a fatty acid and an alkali. British patent 775,791, (1957) I.C.I.

★

Aerosol Foundation Cream

A tinted vanishing type foundation cream suitable for pressure packaging has been developed and patented by Innoxa Ltd., London, England. The product is based on a pigment or pigmented powder in a suitable base capable of being ejected from an aerosol dispenser in the form of a highly aerated cream. In addition the formulation comprises an aqueous emulsion incorporating an emulsifying agent, an oil or fat, a preservative, a perfume, and a propellant. The propellant may be a liquefied, normally gaseous, low molecular weight halogenated hydrocarbon. British patent 780,885, (1957).

★

New Polyvinyl Resin

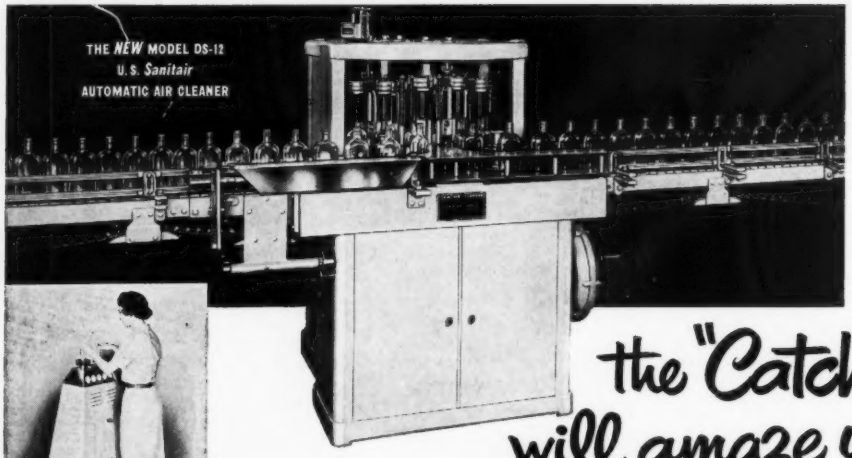
A new polyvinyl chloride-acetate copolymer emulsion was introduced last month by National Starch Products, Inc., New York. "Resyn 2507" is said to provide balanced adhesion between vinyl and polar materials and to combine the advantages of PVC and polyvinyl acetate in the wet state. The resin does not require additives or thickeners to increase viscosity and can be plasticized directly by the user with monomeric plasticizers or with acrylic latices. The material is said to exhibit good wet tack, mechanical stability, and easy heat sealing properties.

Under the designation "Resyn 2547" the material is available in preplasticized form. Both forms are available in drums and tank car quantities.

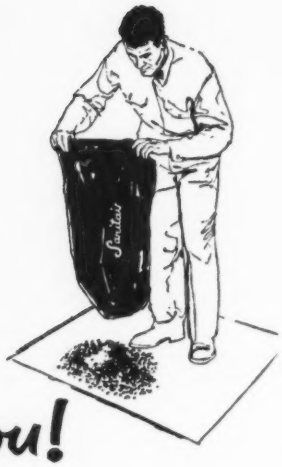
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"Extend-R" Bulletin

United Chemical Corp. of New England, Providence, R. I., recently issued a four-page bulletin describing properties and uses of an organic sequestrant designed as an additive to caustic bottle washing solutions. "Extend-R" is said to increase the wetting and detergent power of soaker solutions without foaming. Use concentrations are low, one quarter to one per cent. The sequestrant is claimed to eliminate rust stains, promote pulping of labels, and cut out hand brushing and acid cleaning operations. Copies of the bulletin are available from United Chemical Corp. at 45 Seekonk Street, Providence 6.



THE E-Z TWO-TUBE AIR CLEANER. Containers inverted over air valves, two at a time, up to 40 per minute. Blows carton lint, dust, etc. out of new containers; any size or type. Send for the E-Z Bulletin.



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OF COURSE your containers are clean . . . they usually come to you in cartons. Yet, to be sure, run them through a U. S. Sanitair and be amazed at the "catch" of dust, carton lint, etc., from supposedly clean containers.

Throughout the packaging world, the U. S. Sanitair is widely adopted as the sure sanitary precaution. Many find it essential to product uniformity; to safeguard the material content of their products; or as a precaution against failure of aerosol valves.

Built in models of varying capacities with container size changeover. Handle all size container openings including AGST, wide-mouth and aerosol-valve finishes. Send for the "Sanitair Bulletin" now.



FOR RINSING any size or shape bottles or jars. The U. S. Rotary Rinser cleans both insides and outsides of containers. For water, steam or air. Send for the Rotary Rinser Bulletin.

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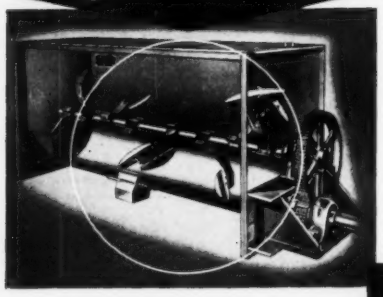
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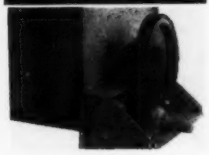
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THE *Marion* MIXER with *Exclusive* MIXING AND BLENDING *ACTION*



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PRODUCTION · Clinic

By E. G. Thomssen, Ph.D.

NEW YEAR'S is stock taking time for every one; time to take inventory of the past and to assess the promise of the future. Economic conditions, less buoyant than in recent years, may well give food for thought to every employee, employer or self-employed alike. Supposing the downward trend continues, will his job or operation survive, how much will it shrink, and will he survive in the job?

These general sobering thoughts may well be aggravated by other and more personal problems in the case of the middle-aged or older man. He may face obligatory retirement in the new year regardless of his potential further usefulnes or his personal wishes. Depending on the individual's temperament and circumstances this may be tantamount to a personal tragedy.

When one realizes that almost every third person in the United States today is over 45 years old, it becomes evident that the problems of the middle aged worker have ceased to be merely personal but have assumed the proportions of a major economic question. Average life expectancy in this country has risen from 47 years to 67 in the past five decades. Advances in preventive medicine and hygiene, prosperity and improved diet, better public welfare services, and progress in therapeutic medicine have combined to produce this phenomenon. But modern man does not only live longer, he retains his youth longer. He does not usually consume his strength by applying it to extremely hard physical labor. The loads which he carried on his shoulders, the wheels to which he used to put his back in days gone-by, are now moved by mechanical devices. Geriatrics, a branch of medicine dealing with old age and its problems, has developed ways to maintain the individual at a high degree of vigor and initiative up to an astonishingly advanced age. Man's allotted span on earth has been greatly lengthened, but his span of working usefulness has been lengthened even more in proportion.



Dr. E. G. Thomssen

Industry has greatly contributed to these changes by financing medical research and social services through taxes and voluntary contributions and by generally raising the standard of living. Yet industry is reluctant to utilize this additional reservoir of labor which it has helped to create. It is averse to employing older men, especially to placing them in desirable positions. Help wanted columns in every newspaper and trade journal tell the same story: Good jobs are almost universally reserved for the young.

The bias against employment of older people is said to be on the wane. But this assertion is hardly borne out by facts. Employers not openly advertising for younger men may use other means to exclude older men and women. In certain sections of the United States surveys have shown that as many as 75 per cent of the employers do not hire help over 45 years of age. While this figure may be high, it has ben stated by the U. S. Department of Labor that 50 to 60 per cent of all job vacancies are closed to men over 40 or women over 35. This means that over half the jobs are barred to one American in every three.

What reasons prompt industry's reluctance to hire older workers? Allegedly the not so young operator is slower, has a lower output and adds to the costs of production. He is said to have difficulties in adapting himself to a new job and environment, to be more accident prone. The middle aged are supposed to lack creativeness, to fall short in physical fitness and ability to get along with others, and to have a higher rate of absenteeism than younger persons. Competent organizations have made a careful check on the validity of these allegations and have found them substantiated only in the case of creativeness and physical condition.

Firms who have a pension plan are apt to claim that the insurance premium increases greatly with the age of its employees. But actually the increase amounts to less than one per cent per hour.

It is interesting to note that industry cooperates with public service organizations in counseling and employing the physically handicapped. This policy has not only resulted in many unfortunate people finding a livelihood but has in many instances worked to the material advantage of the employer. Sympathy plays a powerful role in the hiring of the physically handicapped. Little sympathy.

ALTHOUGH Dr. Thomssen passed away on Nov. 4, as was his custom, he had written ahead his columns for December and January. We plan to publish his final column next month, and thus end a long, and pleasant relationship, which began as a regular monthly column with the October, 1944, issue of **Soap.** Ed.



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patience or tolerance is displayed by industry towards an able bodied, desirable older person who may seek a position or try to hold it. Regardless of whether he is a key man or an operative, the only question is what he can produce on the profit side of the ledger.

Actually the companies who have dropped their prejudices against middle age have found themselves well compensated by the reliability of the older individual, who is more anxious to keep his position than the young and who is subject to fewer distractions. Some of these firms have learned to give preference to the older individual in certain jobs.

While many employers persist in a negative or indifferent attitude toward the problem of utilizing the middle aged worker, federal and state authorities are taking an encouragingly constructive attitude toward the question. In view of the rapidly increasing seriousness of the situation legislative measures are being used for its correction. Five states, Colorado, Louisiana, Massachusetts, Pennsylvania, and Rhode Island prohibit by law discrimination against workers on the grounds of age by either private or government organizations. A bill to outlaw discrimination against older persons when positions are available was introduced in the Senate during the last session of Congress. Although the bill did not pass it is indicative of the seriousness of a situation which may eventually be righted by law. Such legislation would be analogous to the Fair Employment Practices Acts which have been on the statute books for years in certain states.

Actually this is as it should be. Age discrimination makes just as little sense as any other employment bar based on generalizations. A human being is not an arithmetical equation. One man's reduced creativeness at 60 may be a multiple of the creative powers possessed by another at 35. The drive and vigor of one individual at 20 may be far inferior to that dis-

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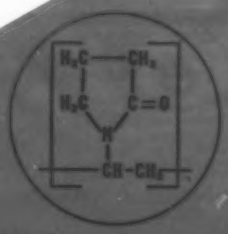
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played by a well adjusted person of advanced age. In no respect do humans have an equal start and by the same token their status at a given age is highly unequal. There is no norm which regulates a human being's usefulness. If the factor of experience is introduced as another variable, standardization becomes even more bizarre.

Middle aged people out of work so far have not been organized. If they should ever get together they would certainly represent a formidable political force. In various urban centers, clubs have been formed for the purpose of placing older people seeking positions. The Forty Plus Club, for instance, places a high proportion of its members in New York, Boston, San Francisco, and other cities. In San Francisco, women over 40 have organized themselves into Careers Unlimited, which finds jobs for up to 50 older women every month. A special job counseling service for the older worker has been established by the U.S. Department of Labor and is represented in each of the department's 1,700 employment offices. The usefulness of this service is based not only on the specialized and expert advice offered to the middle aged and older job seeker, but also on its favorable impact on employers' prejudices against hiring such applicants.

The age barrier in industry causes heartache and economic distress to individuals. In addition it makes no economic sense: industry deprives itself of an ever growing proportion of the national reservoir of labor and looses the benefit of a vast collective store of experience and skills. Furthermore, the manufacturer who pursues such a policy reduces or cuts out a huge proportion of the potential market for his goods by destroying the purchasing power of the middle aged and aged.

Workers facing enforced retirement have usually made some preparation for it and may actually look forward to the time when they have passed 65 and can retire. However, while pension plans and social security do help, payments usually are not sufficient to maintain the previous standard of living. Unless the retired worker has managed to accumulate some savings he may even find himself in real need. Instead of enjoying his later years as he had hoped, he may be leading a hand to mouth existence. He will find it very difficult to locate work to augment his basic income. Many retired people become morose, despondent, and dissatisfied.

In addition to financial difficulties, retirement often presents a psychological problem. A person who has led a full and active life for many decades may find it very hard and sometimes impossible to readjust to comparative inactivity or even to a slower pace. An executive or department head who has been used to carry responsibility, to create and produce, quickly tires

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of golf, bridge, gardening and travel. The pursuits which he enjoyed as hobbies during his active years, will certainly not suffice to satisfy the urges and fill the life of a creative personality. Many such men and women go into a mental and physical decline after retirement. A lucky few manage to return into industry as consultants. There is at least one employment agency which offers persons in this category part-time management assignments on a fee basis. If such a plan could be expanded it would not only prove a boon to retired specialists, technicians and executives. It would also serve to harness to our national economy a vast pool of knowledge, experience, and creative energy which otherwise is most tragically lost. This nation is short of technicians and scientists, yet we throw hundreds of them on the scrap heap every year, a very wasteful method of operation.

Corrosion Inhibitor

A WATER-IN-OIL emulsifier and corrosion inhibitor is being offered by Commercial Solvents Corp., New York. "Alkaterge-T" is slightly alkaline, reduces all acidity, and is said to be harmless to brass. Added in small quantities it forms water-in-oil emulsions with hydrocarbons. The product is suggested for use in automobile crank flushing oils and for the prevention of oil sludge formation in fuel oil tanks. Samples are available from the manufacturer.

Non-Skid Grating

IN many plant locations grating is more suitable than a solid floor. However, ordinary steel grating is apt to turn slippery and may become the source of accidents. Reliance Steel Products Co., McKeesport, Pa., make a grating featuring a non-skid surface. Abrasive particles are embedded in the grating material which are said to make its friction coefficient about one third greater than that of steel and to give it better wearing properties. "Relgrit" is said to be resistant to water, oil, grease, most acids and other corrosives.

Borosilicate Glass Ware

OWENS-ILLINOIS Glass Co., Toledo, O., recently issued a catalog of "Kimax" brand borosilicate laboratory glass ware. Toughness, hardness, resistance to chemical attack and mechanical shock, resistance to heat, and permanent and sharp graduation are among the advantages claimed for this line of laboratory glass.

—★—

Caustic Soda Handbook

A new 132-page caustic soda handbook is available from Dow Chemical Co., Midland, Mich., it was announced recently. The 6¼ by 9½ inch handbook is organized and indexed for reference use. Information includes data on chemical and physical properties, forms, grades and methods of analysis of caustic soda. Economics of caustic usage and methods of handling and storage are given. Seventeen different charts and tables are included.

—★—

New Kiefer Lid Sealer

Karl Kiefer Machine Co., Cincinnati, recently introduced a new machine for dispensing lids and sealing paint cans at the rate of up to 100 per minute. The new unit can handle all size containers from four ounces to one gallon, according to the manufacturer. The lids are dropped from a magazine onto the cans by a positioning device, then sealed by compression rollers.

—★—

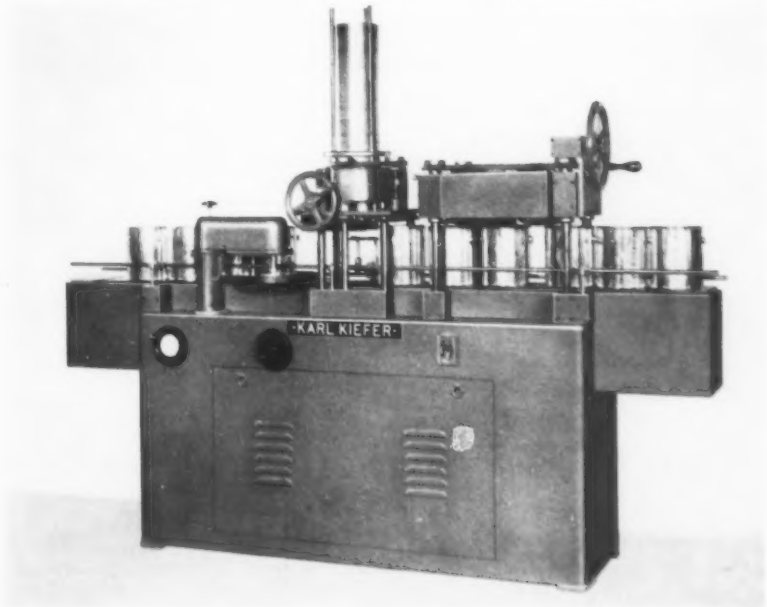
New Cowles Mixers

Cowles Dissolver Co., Cayuga, N. Y., recently introduced two large scale production dissolvers said to combine increased mixing power with improved flexibility. Model 510 VHV is designed to handle a wide variety of big batch mixing and dispersing operations at speeds ranging from 900 to 2100 rpm. The unit is powered by a seven and one half to 10 HP motor and features a hydraulic lift allowing 42 inch maximum rise.

Model 720 VH is claimed to be the largest capacity lift type mixer yet developed. Intended for handling big volume batches of high viscosity, it is powered by a 20 to 40 HP, 1800 rpm motor. Speed of the impeller shaft ranges from 900 to 1500 rpm.

For full information on this equipment contact Morehouse-Cowles, Inc., 1150 San Fernando Road, Los Angeles 65.

New lid sealer of Karl Kiefer Machine Co., Cincinnati, handles 100 cans per minute.





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SOAP PLANT *Observer*

By John W. McCutcheon

AUTOMATION of process control through the use of refractive index has some application to the detergent industry. For example, it has long been used for the control of the hydrogenation process for fats since refractive index is very sensitive to the unsaturated double bond. It is easy, for example, to differentiate between a tallow of iodine value 56 and the same tallow hydrogenated only a few points lower, say, to an iodine value of 53.

The difficulty with refractive index, however, is the fact that subsidiary substances such as unsaponifiable matter, interfere, so that two tallows of identical iodine value or unsaturation may differ appreciably in their refractive indices.

Another troublesome factor is the temperature gradient. Refractive indices are very sensitive to this factor so that even routine work requires control within 0.1°C.

On the positive side of the picture, the refractive index is an optical phenomenon and subject to very exact measurement. Although affected by wave length of light, this is generally very easy to conrtol by proper choice of light source. Also favoring the refractive index as a control vehicle is the fact that it can be used comparatively with a very high degree of precision.

Several pieces of equipment come to mind that may have application here—Barnes Differential Refractometer, by Barnes Engineering Co., Stamford, Conn. and the Consolidated-Phillips Type 38-202 Process Refractometer, made by Consolidated Electrodynamics Corp., 300 North Sierra Madre Villa, Pasadena, Calif. These instruments continuously compare the refractive indices of two streams of liquid—the sample and a reference standard—and produce a signal output for recording or control. There



are several ways this can be used. For example, an "Electronik Recorder" of the Brown Instrument Division of Minneapolis Honeywell Co. could be made to chart both values continuously.

The main feature of the instrument, however, is that it can be pre-set to various values and to produce a proportionate signal value equivalent to the deviation from this setting. Through amplification means, therefore, valves can be turned on or off, pumps speeded up or slowed down as necessary to keep the refractive index of the controlled liquid within the narrow limits of the setting.

How this is done is amply described in the bulletins of the above manufacturers and cannot be reproduced here because of lack of space.

Now, a few factors controlling the continuous hydrogenation process of a fat or oil are temperature, catalyst activity, type of oil, volume, purity and concentration of hydrogen, and rate of oil flow. Let us assume our process consists of uniting fixed flows of hydrogen and oil in a reactor containing a fixed catalyst. Thus, the reaction mixture is continuously withdrawn and divided into two parts—one stream going to production and one stream being returned to the reactor.

The sample stream, therefore, may be taken off the recirculation line, passed through the heat control unit to the refractometer. The refractometer control then may control the opening and closing of the production line so that the ratio of oil recirculated to oil produced can be varied from full-off to full-on.

Refinements of this set-up, of course, are necessary and include automatic heat control of the reactor, control of the gas inlet valve through a limit switch on the refractometer control, etc. If tallow of refractive index 1.4530/60°C. were being hydrogenated to an iodine value of 25, the control setting would be put at 1.4500/60° or such setting as would approximate the desired iodine value as determined by test, with the production valve set to start opening when this point was attained. An iodine change of ± 0.5 represents roughly a refractive index change of ± .00006. Therefore, the control refractometer should be sensitive to light changes of at least ± 0.00001 of refractive index.

Other applications of control by refractive index in the soap and detergent fields might be in glycerine distillation, sulfonation of alkyl aryl hydrocarbons or fatty alcohols, in the compounding of liquid detergents by continuous processes, in fatty acid distillation, in controlling caustic soda or acid mixing operations for continuous processes, in continuous methods of esterification such as in the preparation of polyglycol ethers, butyl oleate, etc., or in continuous condensation reactions such as the manufacture of fatty acid ethanolamides.

Other less direct spots of application might possibly be represented by the continuous recording of glycerine in bootleg water from crude evaporators of glycerine stills. A change of 0.1 per cent glycerine in water, raises the refractive index approximately 0.0001, which is 10 times the limiting sensitivity

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of the Model RE-A5 Barnes Differential Refractometer and 50 times the sensitivity of Model RE-A6.

A continuous recorder control unit would be useful in a continuous fat splitting unit to measure the glycerine content of the water layer so as to control the ratio of water to fat. Generally this is done by a recorder controller rate of flow meter pre-set for each type of fat going through the process. It would appear to the writer that a per cent glycerol control unit would give closer control of maximum splitting conditions than the more arbitrary flow control method.

It should be pointed out that any application of the nature described above must be fully engineered to the specific problem by the cooperative effort of the instrument manufacturer and a process control engineer or a consultant.

* * *

THIS month we begin a revised listing of detergents and emulsifiers available in the U. S. The preliminary remarks on this undertaking are presented on page 59 of this issue. However, a point or two may be made here that could not be included in such a general review.

Production of detergents and emulsifiers generally is showing a leveling off, while the number of manufacturers in these fields is growing. More companies are producing a wider group of chemicals. Dozens of companies offer diethanolamides for example. A large number now produces the acid base for sale to compounders for addition directly to their alkaline mixes to make a product containing a detergent formed *in situ*. Very few companies are pushing their neutralized slurry, with the possible exception of those in the export market.

Company growing pains in the surfactants field are particularly evident. The period 1954-1957 is chiefly one of company regrouping. Advance Solvents, Ultra Chemicals, Standard Soap, Ninol Laboratories, are now divisions of other companies. Fairfield Chemicals, Planetary Chemical Co., Remsen, Hart and Harrington, Industrial Raw Materials and others have disappeared from the field. New companies or companies new in this field appearing in the list include Jefferson Chemicals, Krystall Chemical Co., Lyle Branchflower, Mathe Chemical Co., Chas. Pfizer & Co., Roberts Chemical Co., Sole Chemical and many others.

Among companies whose names have changed are Pedlow-Nease Chemical Co. to Nease Chemical Co., Surfact Co. to Surfacto Co., Pilot Chemical Co. to Pilot California Co., Winthrop Stearns to Winthrop Laboratories, Carbide & Carbon Chemicals to Union Carbide Chemicals, etc.

Sometimes the association between companies can become rather amusing. National Lead Co's Baroid Division handles some Aquaness Chemical Corp. products which last company is a division of Atlas Powder Co.

* * *

INDUSTRIAL Molasses Corp., 321 Fort Lee Road, Leonia, N. J. has devised a new wrinkle for transporting liquids: a four-ply "Neoprene" rubber bag called a "Sealdtank" which can be spread out on a flat bed truck and pumped full of liquid. It is strapped to the bed of the truck to prevent shifting during transportation. At the end of the trip the bag may be rolled up to occupy a small space so that the truck may be used for other purposes.

Sizes range from 1000 to 4000 gallons. A standard size holds 3100 gallons, measures 30 feet long by seven feet, four inches wide when flat and sells for $1860.

It may be leased at $155 per month for nine months minimum with full rent allowance for purchase at the end of this period.

Fatty oils, phosphoric acid and other such liquids have been transported by this means and there is no reason to believe liquid detergents would not also come within the category.

—★—

F. A. Color Chart

The chemical division of Armour & Co., Chicago, is offering a color standards comparison chart. Operating on the slide rule principle the chart converts product color readings to the scale of one's choice. The commonly used scales are included: Gardner 1933, American Public Health Association, National Petroleum Association, American Society of Testing Materials, American Oil Chemists' Society Fat Analysis Committee and Lovibond, both one inch and 5¼ inches on the back of the chart there is a slide indicator for "Neofat" fatty acids, giving compositions and specifications. The chart is available from Armour's chemical division at 1355 West 31st Street, Chicago 9.

—★—

Carbide Products List

The 1958 edition of "Physical Properties," a 28-page booklet published by Union Carbide Chemicals Co., Division of Union Carbide Corp., New York, has just become available. This guide to Carbide's products and services presents information on the physical properties of over 350 organic chemicals, including surface active agents, amines, "Carbowaxes," etc. Fifty new chemicals are listed which were not included in the previous edition. Products are cross indexed alphabetically.

Copies are available on request from the company at 30 East 42nd Street, New York 17.

—★—

New Diamond Brochure

A new 32-page brochure describing applications of its basic industrial and agricultural chemicals was published recently by Diamond Alkali Co., Cleveland. Fully illustrated the booklet provides information on 14 major product classifications of Diamond's lines of chemicals. Included in the list are soda, soda ash, caustic soda, chlorine, chlorinated methanes and sodium silicates. Copies of the brochure may be obtained from the company's public relations department, 300 Union Commerce Building, Cleveland 14.



HIGH

TIME

Though Mom may scold him . . . soapers love him. *What a market!* His clothes will come clean, of course, thanks in part to Victor chemicals. For no matter how "heavy" or "light" the cleanup job, soap and detergent manufacturers know they can rely on Victor for phosphates that improve products, cut production costs. Isn't it high time *you* saw Victor? It costs nothing . . . yet more than 40 industries know — it pays. Victor Chemical Works, 155 N. Wacker Drive, Chicago 6, Ill.



IT PAYS TO SEE

VICTOR

Dependable Name in

Chemicals

for 40 Years



Clean as a whistle. Her laundry is light work these days, thanks to heavy-duty detergents and mechanical washers. Soap and detergent manufacturers know it pays to see Victor for *sodium tripolyphosphate* and *tetrasodium pyrophosphate*. Both have outstanding water-softening action and detergent properties.



KP is OK—today. When the kitchen force takes charge *now*, KP duty is a snap. Commercial dishwashing compounds containing Victor *chlorinated trisodium phosphate* smell fresh . . . do a cleaner, more antiseptic job.



Clean Sweep. That's what dirty floors get when Victor sodium polyphosphates are part and parcel of the industrial cleaning compounds used by the clean-up crews. For rugged or delicate jobs where detergency has to pay off in one operation, many compounders know that . . . It pays to see Victor!



GROCOL 600

by all tests, the best Hydrogenated Tallow Glyceride

Strict quality control in the manufacture of GROCOL 600 Hydrogenated Tallow Glyceride has established a new benchmark for the industry —an iodine value of below 0.5.

This indicates extremely low unsaturates and assures correspondingly long shelf life for your products – whether quality plasticizers, esters, lubricants or finishing agents.

Lightness of color is unexcelled. Stability under heat is outstanding. In a recent test, production samples of GROCOL 600 gave a Lovibond reading of 0.2 red and 1.3 yellow before an A.O.C.S. method heat test, and a reading of 0.2 red and 2.2 yellow afterward.

Free fatty acid content is well under 0.5% with an average below 0.25%. Unsaponifiables are 0.25% maximum. Odor is bland.

Your payoff in sales will improve if you "Always specify A. Gross" Hydrogenated Tallow Glyceride —GROCOL 600. You can see why.

Send for samples and brochure, "Fatty Acids in Modern Industry."

FATTY ACIDS

Stearic Acids • Coconut Fatty Acids • Tallow Fatty Acids • Vegetable Fatty Acids
Red Oils • White Oleines • Hydrogenated Tallow Glycerides • Hydrogenated Fatty Acids

a. gross & COMPANY

295 Madison Avenue, New York 17, N. Y. • Factory: Newark, N. J.
Distributors in principal cities • Manufacturers since 1837

News...

PEOPLE • PRODUCTS • PLANTS

New Floor Care Film

* * *

Woolley Babbitt V.P.

* * *

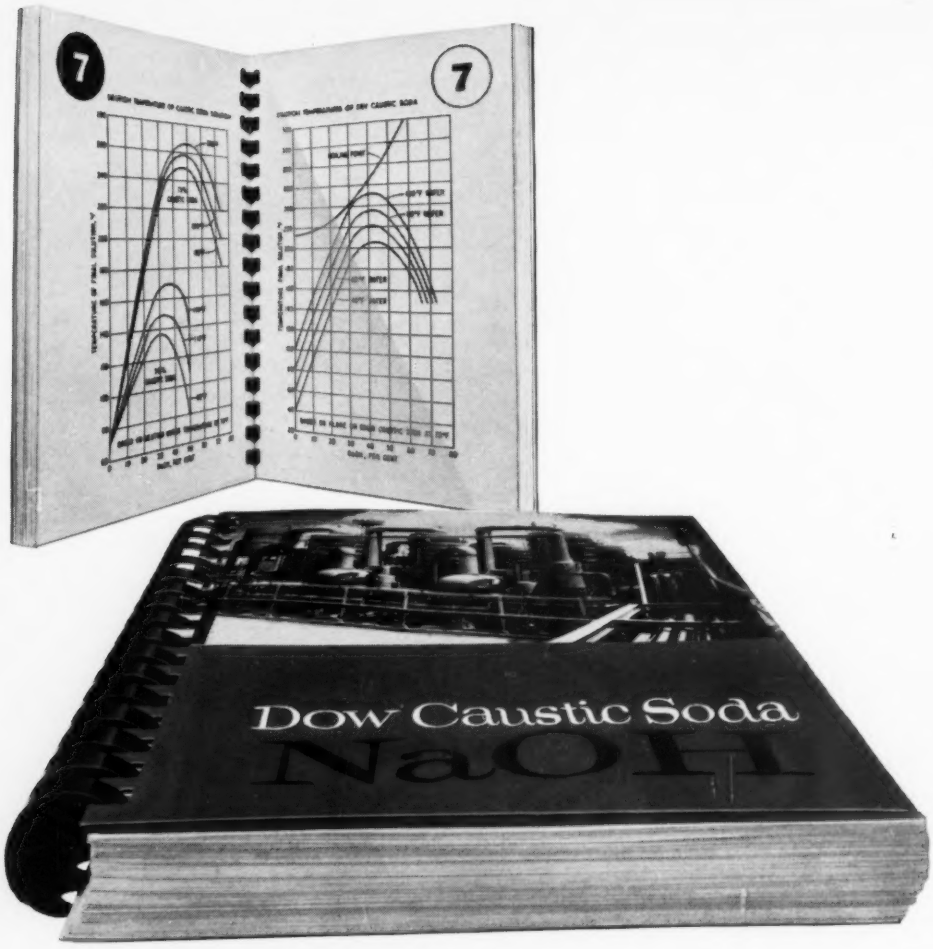
White King Economist

* * *

P&G Canadian Changes



Election of Dr. John R. Brown as a director and vice-president in charge of research and development of Colgate-Palmolive Co., New York, was announced Nov. 15 by E. H. Little, president and chairman. *Story on page 261.*



NEW 132-PAGE DOW CAUSTIC SODA HANDBOOK

This brand-new handbook is packed with information about caustic soda. It is organized and indexed for reference use. Contains specific data about the manufacture of caustic soda, chemical and physical properties, forms and grades, and methods of analysis—plus information about the economics of caustic soda usage and methods of handling and storage.

Seventeen different charts and tables cover such data as relative heat content, vapor pressure-temperature, dilution, and specific gravity vs. temperature of caustic soda solutions. Plan now to put this colorful, compact book (6¼" x 9½") in your reference files.

Yours for the asking. Send the coupon right away.

RETURN THIS COUPON FOR YOUR FREE COPY

THE DOW CHEMICAL COMPANY
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Please send my copy of
the new Dow Caustic Soda Handbook
at no obligation.

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CITY_____ STATE_____

YOU CAN DEPEND ON DOW

News

Babbitt Names Woolley

John L. Woolley has been appointed vice-president of marketing for B. T. Babbitt, Inc., New



John L. Woolley

York, it was announced last month. Mr. Woolley previously had been assistant sales director, supervising marketing and sales of all lines of Babbitt's grocery products.

Mr. Woolley joined Babbitt in 1936 when the Holly Products Co., Vernon, Calif., of which he was sales manager, was purchased by Babbitt. After serving as Pacific Coast regional manager where he directed sales of "Bab-O" and "Glim," he became national sales manager. In November, 1956, he was named assistant vice-president and assistant director of marketing. He assumed his most recent post in July of this year.

★

New Floor Care Film

A new 16-minute film, in full color and sound, showing how to maintain a floor properly, was announced recently by S. C. Johnson & Son, Inc., Racine, Wis. The film demonstrates the best way to clean and wax a floor from start to finish, using latest techniques and equipment. It will be available to all Johnson maintenance distributors.

In addition to showing the film, the distributors will give a complete custodial training session, including a question-and-answer period, demonstrations on floor care techniques, product demonstrations, and the distribution of literature on proper floor maintenance.

Interested groups may see this film free of charge by contacting a local Johnson distributor.

★

Multi-Clean Names Kane

John M. Kane, vice-president of Empire National Bank, St. Paul, has been elected to the board of directors of Multi-Clean Products, Inc., of that city. Multi-Clean manufactures a complete line of floor maintenance materials and equipment.

★

Mrs. Douglass in New Post

Appointment of Mrs. Dorothy Douglass as assistant perfumer in the perfume department of Shulton, Inc., Clifton, N. J., was announced recently by C. H. Kline, scientific director. Prior to joining Shulton, Mrs. Douglass served for six years with Glidden Co., Cleveland, and before that was with Heyden-Newport Chemical Corp., New York.

★

P&G Education Grants

Procter & Gamble Co., Cincinnati, recently announced that 47 colleges will award 60 P&G scholarships during the 1958-59 school year. Each scholarship will pay four full years of tuition, plus an allowance for fees, books and supplies. In addition, P&G accompanies each scholarship with a gift of $600 to the college to help meet the cost of providing facilities for the selected students. The 47 institutions include ten women's colleges.

The scholarship benefits are part of P&G's program of aid to higher education through which nearly $1,000,000 a year is made available in research grants, scholarships, fellowships and direct financial assistance to some 475 colleges throughout the United States.

Sarvis Joins Lever

George Sarvis has been named to the newly-created post of armed forces department manager



George Sarvis

of Lever Brothers Co., New York, it was announced recently by Donald G. C. Thomas, armed forces and foreign division general manager. Mr. Sarvis previously was assistant general sales manager of the Dromedary Division of National Biscuit Co. Louis W. Meyer, who had been serving as armed forces sales manager, has been named assistant to Mr. Thomas.

★

New Beach Distributor

Beach Soap Co., Lawrence, Mass., last month announced the appointment of Stedford Chemical Co., Fayetteville, N. Y. as representative for its line of laundering products in Syracuse, N. Y. This territory previously was handled by Syracuse Rendering Co.

★

Vinal K. Cassady Dies

Vinal Kent Cassady, a former chief chemist for the Palmolive Soap Co., Milwaukee, died Nov. 4 at Sacred Heart Sanitarium in that city. He was 84 years old. Mr. Cassady joined Palmolive in 1911 and retired in the early 1930's when the firm moved from Milwaukee. He previously was associated with Armour and Co., Chicago.

Frank L. Weill Dies

Frank L. Weill, 63, a director and former board chairman of B. T. Babbitt, Inc., New York, died Nov.



Frank L. Weill

10 at his home in New York. Mr. Weill served as Babbit chairman from August, 1956 to July of this year, when he was succeeded by Samuel Mendleson. He had been a director since 1923.

At the time of his death, Mr. Weill was senior partner in the law firm of Weill, Gotshal & Manges, New York. He is survived by his wife, the former Miss Henrietta Simons, and three sons, John, Thomas and Peter Weill.

—★—

Plant Maintenance Show

Sixty speakers from 22 states, the District of Columbia and Canada, will address the 25 sessions of the Plant Maintenance & Engineering Conference to be held Jan. 27-29 at the International Amphitheatre and Palmer House in Chicago. The conference will be held in conjunction with the Plant Maintenance & Engineering Show to be held at the Amphitheatre Jan. 27-30.

Both the show and conference are returning to Chicago for the first time in three years. The exposition will have approximately 425 exhibitors with the exhibit area expected to exceed 100,000 square feet. This is almost 50 per cent more exhibit space than was occupied when the show was last produced in Chicago.

Topics to be discussed at the conference sessions include "Maintenance in Small Plants," "Maintenance in Large Plants," "Fundamentals of Preventive Maintenance," "Setting Maintenance and Sanitation Objectives," "Getting Work Cooperation from Maintenance Employees," "Fundamentals of Maintenance Cost Control," and "Maintenance in Chemical Plants."

—★—

Lever Names Two

Appointments of C. L. Neal as Chicago district sales manager and Ben F. Mann as Houston district manager for the Lever Division of Lever Brothers Co., New York, was announced recently by Hugh R. Conklin, general sales manager.

Mr. Neal, formerly Houston district sales manager, succeeds Lyle B. Garvey, who has been transferred to the company's headquarters in New York as market coverage manager, a newly-created position. Mr. Neal joined Lever in 1941 as a junior salesman in the company's Atlanta district. He was appointed to his most recent post in 1955. In his new capacity, he will be responsible for sales of Lever's toilet soaps and packaged soaps and detergents in the greater Chicago area, eastern Iowa and northwestern Indiana.

With Lever since 1949, Mr. Mann previously was field sales manager in the company's Atlanta district. In his new post, he will direct sales of Lever's toilet soaps, packaged soaps and detergents in Texas, Oklahoma and western Louisiana.

—★—

Brillo Earnings Higher

Brillo Manufacturing Co., Brooklyn, N. Y., recently reported a sharp increase in earnings for the first nine months of 1957. Net income amounted to $623,726, equal to share earnings of $4.32. This compared with $552,641 and $3.83 in the similar period a year ago. The company also announced that it has raised the common dividend to 50 cents, payable on Jan. 2, from 45 cents paid in previous quarters.

New Columbia Sales Mgr.

Columbia Wax Co., Glendale, Calif., recently announced the appointment of H. N. Farthing to



H. N. Farthing

the newly-created post of general sales manager. He formerly was sales manager of the floor care products division. In his new assignment, Mr. Farthing will direct sales activities of all Columbia's divisions.

Other Columbia sales appointments also announced include: Raymond H. Hollingsworth, sales training manager; George H. Main, manager of the resale division in charge of jobber distribution in the west; Michael Clarizio, northern California district manager; A. W. Kenney, Orange County and San Diego sales representative; and Russell Allen, manager of the Sacramento office.

Sales of the company's products in the first nine months of 1957 are substantially ahead of the corresponding period of a year ago, according to C. H. Richardson, director of marketing. He attributed the increased volume to jobber acceptance of the company's "SuperPol," a polymer emulsion floor polish developed earlier this year.

Mr. Richardson also announced the formation of a new Columbia Division to be known as Columbia Floor Equipment Co. The new unit, which will distribute floor machines and maintenance equipment, will make its headquarters at 540 Riverdale

Drive, Glendale and will operate under the direction of C. H. Douglas, formerly Pasadena and San Gabriel sales representative.

★

Avon Declares Dividend

Directors of Avon Products, Inc., New York, have voted a dividend of 35 cents on common stock, payable on Dec. 1, and a stock dividend of four per cent, payable Dec. 27. The firm paid 30 cents in the three previous quarters this year, bringing the 1957 total to $1.25 plus the four per cent in stock. In 1956, it paid $1.05 in cash on the present share basis. A four per cent stock dividend also was paid in December, 1956.

★

New Armour Sales Office

A new southeastern sales office for the chemical division of Armour and Co., Chicago, has been opened in Atlanta, Ga., it was announced recently. The new branch will operate under the direction of L. E. Garrison, formerly sales representative in Charlotte, N. C. Its territory will include Georgia, Florida, Mississippi, Alabama and western Tennessee.

★

J. C. Redd Heads NPCA

The National Pest Control Association, Elizabeth, N. J., elected J. C. Redd, Redd Pest Control Co., Jackson, Miss., as president at its 24th annual convention held Oct. 21-24, at the Brown Hotel, Louisville, Ky.

The group also elected Wayne K. Davis, Ailing House Termite Inspection Bureau, Oakland, Calif., as executive vice-president, and Paul J. McMahon, McMahon Brothers, Inc., Binghamton, N. Y., as secretary-treasurer. New members named to the executive board are Harold Schnorrenberg, Dead Shot Chemical Co., Oklahoma City, and I. B. Carncross, Syracuse Chemical Co., Syracuse, N. Y.

In line with its policy of selecting meeting sites five years in advance, NPCA's board of directors voted to consider a week's trip to Bermuda and back for its 1962 convention. Next year's meeting is set for Washington, D. C.; 1959 for Biloxi, Miss.; 1960 for Tulsa, Okla., and 1961 for Miami Beach, Fla.



Retiring president Myron W. Smith, Hill-Smith Termite Control Co., Memphis, Tenn., congratulates the new slate of officers of the National Pest Control Association. Elections took place at NPCA's 24th annual meeting held recently in Louisville. Shown left to right are: Mr. Smith; J. C. Redd, Redd Pest Control Co., Jackson, Miss., president; Wayne K. Davis, Ailing House Termite Inspection Bureau, Oakland, Calif., executive vice-president; and Paul J. McMahon, McMahon Brothers, Inc., Binghamton, N. Y., secretary-treasurer.

The board also voted to appoint delegates to confer with the organizational committee of the First International Conference on Pest Control on the possible formation of an International Pest Control Association. The international group will meet for the second time in Vienna, Austria, May 14-18, 1958.

★

Roy L. Zeno Dies

Roy L. Zeno, 63, for the past 25 years manager of the water soluble gum department of S. B. Penick & Co., New York, died Nov. 9 at his home in Hollis, N. Y. He was a past secretary of the Water Soluble Gum Association of the United States. Surviving are his wife, Carolyn, three sons and three grandchildren.

★

New Cowles Dry Bleach

A new laundry bleach designed for dry application directly into the wash wheel was announced recently by Cowles Chemical Co., Cleveland. Tradenamed "Dry Chloresco," the product is said to remove mildew stains in the washing operation, in addition to stripping out lime and acid soaps. "Dry Chloresco" is also claimed to reduce tensile strength loss up to 50 per cent and is suitable for use without changing time or temperature cycles of the wash. It is available in 125 pound drums.

★

New "Pepsodent" Office

The Pepsodent division of Lever Brothers Co., New York, has established a Boston district sales office to service the New England area and outstate New York. According to V. T. Finch, "Pepsodent" sales manager, the latter regions previously were serviced by the New York office, which will continue to handle product sales in metropolitan New York, Westchester County, Long Island and northern New Jersey.

★

New D&O Catalog

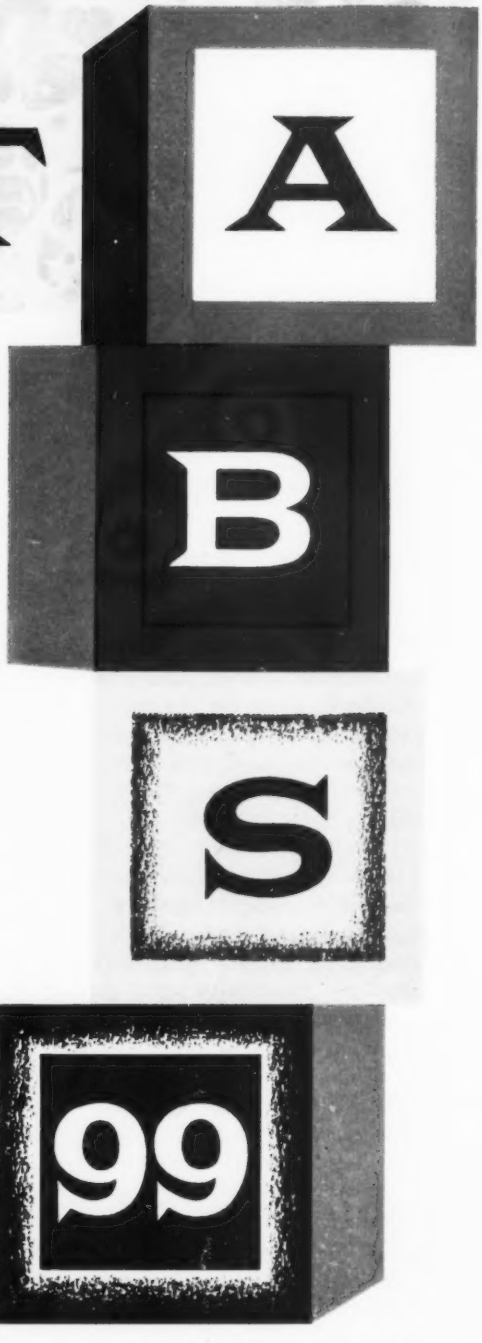
Dodge & Olcott, Inc., 180 Varick St., New York 14, recently published a new catalog containing more than 1,500 listings of its essential oils, balsams, concentrated flavors, oleoresins, basic perfume oils, aromatic chemicals and certified colors, for use in the chemical specialties and allied industries. The 36-page brochure also includes descriptions and applications of the products. Copies are available from the company.

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neutralization

emulsion
cleaners

liquid
detergents

PILOT



The building block for all sulfonate detergents . . .

Pilot ABS-99, dodecyl benzene sulfonic concentrate, offers amazing flexibility for your detergent formulation: for direct neutralization of carbonate or bicarbonate mixtures to give dry compounds; can be mixed with a variety of bases and solvents for oil or water dispersable products; will form low sulfate liquids and pastes of light color for all-purpose liquid detergents; will form amine sulfonates which are directly soluble in oil, alcohol and non-aqueous media.

ABS-99 is made by Pilot's unique *Cold Processing* and gives 14% more active ingredient than ordinary 88% pure sulfonic concentrates. Detergent products can be made more efficient and manufactured at a lower processing cost by using highly concentrated Pilot ABS-99.

Because of its high purity, ABS-99 *may be kept in plain steel containers!*

Write now for technical information and sample.

LEADS THE WAY TO BETTER PRODUCTS
PILOT

PILOT *California Co.*

215 WEST 7th STREET • LOS ANGELES 14, CALIFORNIA

D&O Appoints Kainik

Herbert G. Kainik has been named technical director of perfume sales for Dodge & Olcott, Inc.,



Herbert G. Kainik

New York, it was announced last month. For the past two years, he had served D&O as a consultant to customers of the company's lines of essential oils and aromatic chemicals.

—★—

Insect Attractants

Natural and synthetic insect attractants are being sought and tested by the U. S. Department of Agriculture's chemists and entomologists. Currently used to control the Mediterranean fruit fly and the gypsy moth, some attractants are being introduced in the fight against certain insects infesting households and industrial establishments.

Effectiveness of this approach to insect control has been demonstrated during the past year in the Mediterranean fruit fly eradication program operating in Florida under Federal-State direction. A natural and a synthetic attractant have been used to lure flies into traps to detect their abundance in different areas. In addition, a food-like attractant that is mixed with an insecticide lures the flies to consume the lethal bait.

An attractant is also being used in the Federal-State plan to eradicate the gypsy moth from nearly three million acres of New York, New Jersey, and Pennsylvania forest land. Made from female gypsy moths, the attractant lures male moths to baited traps from distances of at least half a mile.

Details on the work currently being carried out by the USDA's agricultural research service in the search for more and better attractants is described in a recent news release by the department which the Chemical Specialties Manufacturers Association has circulated among its members because of the subject's topical interest.

—★—

Dispenser Soap Data

A new, four-page, two-color bulletin describing its line of liquid soaps was issued recently by the industrial department of Colgate-Palmolive Co., 300 Park Ave., New York 22. The fully-illustrated folder provides complete product data on Colgate's liquid and granulated dispenser soaps, and in addition, lists suggestions to aid in determining the selection of such products. Also included in the bulletin is information on various types of soap dispensers and the soap product best suited for each unit.

George W. Merck Dies

George W. Merck, 63, board chairman of Merck & Co., Rahway, N. J., died suddenly Nov. 9 at his home in West Orange, N. J. He joined the company, which was founded by his father, George Merck, in 1889, in 1915. He succeeded his father as president in 1925 and served in that capacity for 25 years. He became chairman of the board in 1949.

—★—

Virginia Earnings Increase

Virginia-Carolina Chemical Corp., Richmond, Va., recently announced that income for the first three months of its fiscal year ended Sept. 30, has increased to $58,488 from $12,774, in the corresponding period a year ago. Sales were reported at $9,594,465 for the quarter, contrasted with $10,123,085 a year earlier.

—★—

Helene Curtis Earnings

Net income of Helene Curtis Industries, Inc., Chicago, totaled $307,321 in the six months ended Aug. 31, it was announced last month. No comparison figures are available because of a change in the company's fiscal year.

P&G Sales Appointments

A. P. Clark has been named general sales manager of Procter & Gamble Co. of Canada, Ltd., Toronto, it was announced recently by W. E. Williams, president and general manager. Mr. Clark, who has been manager of both the Montreal and Winnipeg sales districts during the past five years, succeeds W. W. Brown, general sales manager since 1953. Mr. Brown becomes director of sales for Procter & Gamble of Venezuela.

R. G. Clarkson has been appointed to fill the post left vacant by the advancement of Mr. Clark. Formerly Montreal unit manager, Mr. Clarkson has been with P&G for four years.

A. P. Clark



W. W. Brown



R. G. Clarkson



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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

PRODUCT NEWSLETTER

featuring methylene chloride



• Today, methylene chloride finds wide use in nonflammable paint removers and aerosols.

Versatile methylene chloride packs power into a variety of products

Methylene chloride offers the unique combination of powerful solvent action, nonflammability and low toxicity. These features give this amazing chlorohydrocarbon a host of important uses in today's industrial world.

Paint Removers—The chief constituent of nonflammable paint removers is methylene chloride. Used in combination with additives, activators, wetting or coupling agents, it is highly effective on a wide variety of finishes—including those containing many of the new resins!

Aerosols—Methylene chloride is also used in low-pressure aerosols, mixed with a high-pressure propellent, to provide the desired pressure. Its high solvent power minimizes plugging of the dispensing nozzle by keeping the active ingredients completely in solution during storage.

Film Casting—One of the biggest uses for the solvent power of methylene chloride is the casting, in films or other shapes, of high-acetyl cellulose acetate from its solution in methylene chloride.

Metalworking Applications—This versatile solvent finds two distinct uses in the metalworking industry. First, it is used in mixtures with selected petroleum distillates and/or chlorohydrocarbon solvents to provide cold cleaning mixtures of low flammability and low toxicity as well as "custom-tailored" solvent action and rate of evaporation as required for specific surface-cleaning jobs. Second, methylene chloride is used as a vapor-degreasing solvent where its particular solvent power is needed or where it is necessary to limit the cleaning temperature; i.e., to vapor-degrease at temperatures below the boiling point of the more commonly used vapor degreasing solvent, trichlorethylene.

Heat Transfer and Refrigeration—The high specific heat and low freezing point of methylene chloride make it especially suitable as a low-temperature heat transfer medium. When used as a refrigerant in low-pressure installations, its intermediate boiling point permits the use of low-cost, high-capacity rotary compressors.

Other Uses—The low boiling point and outstanding solvent properties of methylene chloride have been applied in extraction operations, particularly where the extract is a heat-labile substance. It is also used as a reaction medium or product extractant in the manufacture of fine chemicals, pharmaceutical intermediates, alkaloids, natural or synthetic waxes and resins.

Methylene chloride also is a chemical intermediate. Reacted with organosilanes, methylene chloride yields organosilicon polymers in which the silicon atoms are interconnected by methylene radicals. Similarly, methylene chloride is used to insert a methylene bridge between rings of certain heterocyclic compounds.

Du Pont offers a wide range of technical information on methylene chloride as well as handling and storage information. Just drop a line to:

E. I. DU PONT DE NEMOURS & CO. (INC.)
ELECTROCHEMICALS DEPARTMENT
CHLORINE PRODUCTS DIVISION SC-12
WILMINGTON 98, DELAWARE

PROPERTIES

Formula	CH_2CL_2
Molecular weight	84.94
Boiling point	39.8°C. (103.6°F.)
Freezing point	-96.7°C. (-142.1°F.)
Specific heat cal./g./°C. or B. t. u./lb./°F.	
Liquid (20°C.)	0.276
Vapor (cp) (B. P., 1 atm.)	0.152
Specific gravity (20/4°C.)	1.326
Weight per gallon (20°C.)	11.07 lbs.
Evaporation rate (Ether -100)	71
Flammability	Underwriters' Laboratories Rating. . . . . Nonflamm.

DU PONT
METHYLENE CHLORIDE

Browning in New Post

Robert T. Browning has been named executive vice-president of Wallace & Tiernan, Inc.,



Robert T. Browning

Belleville, N. J. He will assume his new duties on January 1, 1958. With the company since 1930, Mr. Browning has served in various sales and managerial capacities. For the past four years, he has been vice-president in charge of sales of the firm's three chemical divisions and the sales and engineering activities of its five equipment divisions and subsidiaries.

—★—

Diamond Names Raedel

Appointment of Frank H. Raedel, Jr., as sales manager of consumer products for the Black Leaf Products Division of Diamond Alkali Co., Cleveland, was announced recently. For the past three years, Mr. Raedel has been a private marketing consultant. Prior to that, he was associated with Gold Seal Co., Bismarck, N. D., where he was concerned with marketing and sales of "Glass Wax."

—★—

Carbide Plant for Britain

Union Carbide Corp., New York, recently announced plans for construction of its second petrochemicals plant in Britain, which will make ethylene oxide derivatives. Scheduled for completion in 1959, the plant will be located at Fawley, seven miles southeast of Southampton. Ethylene will be supplied by an Esso Petroleum Co. refinery nearby. Ethylene oxide, ethylene glycols, polyethylene ethers, ethanolamines, glycol ethers, polyglycol ethers and esters, and other surface active agents will be manufactured at the new plant which will have an annual capacity of 45 million pounds. Initial facilities will cover 25 acres on a 58 acre site.

Carbide's 24-million pound per year polyethylene plant at Grangemouth, Scotland, is scheduled for completion this month.

—★—

Koppers Appoints Roberts

Appointment of James A. Roberts as assistant to the chemical products manager of the chemical division of Koppers Co., Pittsburgh, was announced last month. With the company since 1947, Mr. Roberts formerly served as a chemical salesman in the Philadelphia district. He previously was associated with E. I. du Pont de Nemours & Co., Wilmington, Del., as a chemist.

—★—

Theimer in New Post

Dr. Ernst T. Theimer has been appointed director of research for van Ameringen-Haebler, Inc., New York, it was announced last month by Charles P. Walker, president. Dr. Theimer had been engaged in various research activities with the company since 1931. His new responsibilities will include direction of research on aromatic products and processes, as well as on new analytical techniques for product quality control.

Ernst T. Theimer



Nopco Names Dolan

William F. Dolan, Jr., has been appointed technical sales representative for the industrial divi-



William F. Dolan, Jr.

sion of Nopco Chemical Co., Harrison, N. J., it was announced last month. He will handle sales of the company's complete line of processing chemicals in North Carolina and eastern Tennessee.

—★—

Borax Earnings Statement

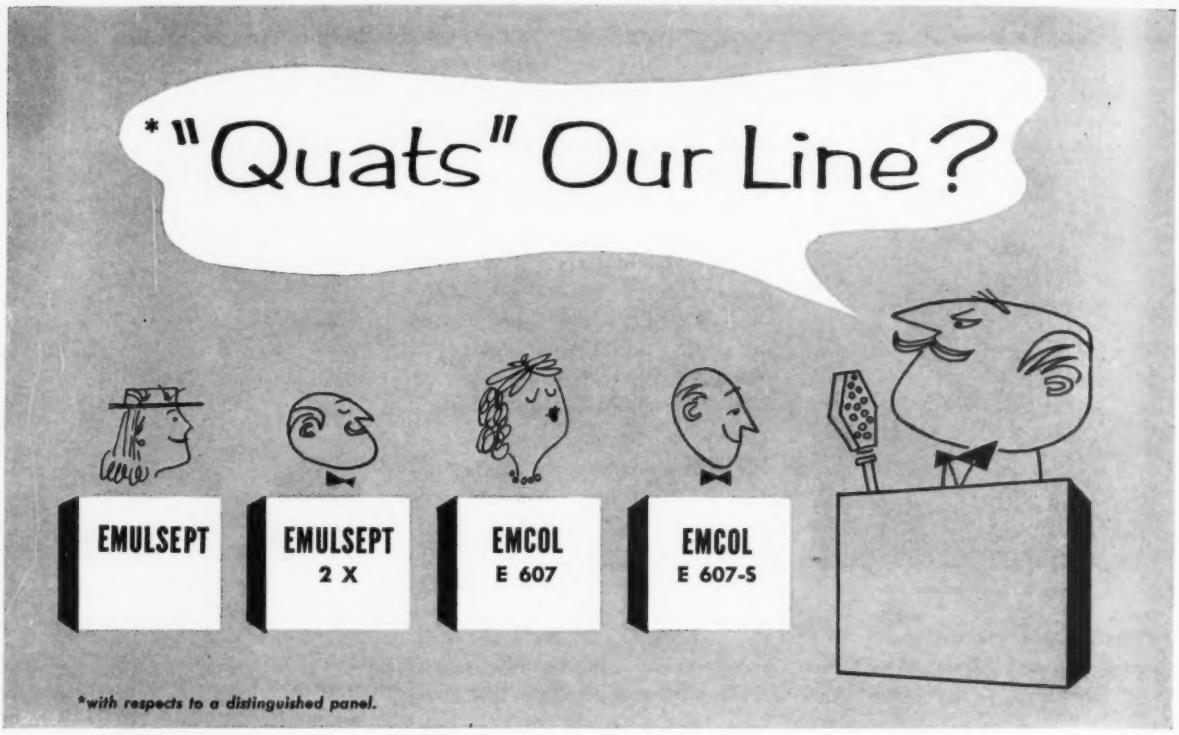
United States Borax and Chemical Corp., Los Angeles, last month reported sales of $39,581,008 for the nine months ended June 30. Income for the period amounted to $4,797,180, equal to share earnings of $1.03.

According to James M. Gerstley, president, comparative figures for the corresponding period of last year were not given because the company was organized in its present form in July, 1956, through merger of Pacific Coast Borax Co. and United States Potash Co.

—★—

Drackett Sales Up

Sales and earnings of Drackett Co., Cincinnati, showed a sharp increase in the first nine months of 1957, it was announced recently. Net sales totaled $26,688,572, as compared with $24,682,603, in corresponding period of 1956. Net income amounted to $1,004,764, equal to share earnings of $1.24. This compares with $847,757 and 96 cents in the first nine months a year ago.



Those in the know—have the answer at their finger tips . . .

EMULSOL'S Quaternaries, of course . . .

There's one for each purpose
—all bland in odor
—all non-irritating—
—all uniquely outstanding

n(acyl colamino formyl-methyl) pyridinium chloride	
EMCOL E 607	a quaternary ammonium compound that's a crystalline *lauroyl* derivative, with applications as a non-irritating germicide, a deodorant or cationic emulsifier.
EMCOL E 607-S	this "quat" is a crystalline *stearoyl* derivative for applications of non-irritating cationic emulsifiers, hair conditioners, and emolients for cosmetic preparations.
EMULSEPT 2 X	20% aqueous compounders concentrate of EMCOL E 607.
EMULSEPT	commercial 12.0% concentrate of EMCOL E 607. High foaming, relatively non-irritating and non-selective prestige germicide. *Recommended for: low toxic sanitizers, deodorants, or substantive agents that contact skin or other tissue, such as cosmetic and pharmaceutical formulations.*

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Emulsol

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division of Witco Chemical Company
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GAF Names Lyons

John R. Lyons has been appointed sales engineer for the acetylene chemicals department of An-



John R. Lyons

tara Chemicals Division of General Aniline & Film Corp., New York. Mr. Lyons will handle sales of PVP and similar polymers to the cosmetic industry. Mr. Lyons formerly was a technical representative for Sindar Corp., New York.

—★—

Reilly Advances Kostoff

Appointment of Nick V. Kostoff as technical sales representative in the southwestern portion of the United States for Reilly Tar & Chemical Corp., Indianapolis, Ind., was announced recently. For the past six years, Mr. Kostoff had served as plant chemist at Reilly's Granite City, Ill., plant. He will handle sales of the company's chemical and petroleum products.

Nick V. Kostoff



CSC Opens New Office

Commercial Solvents Corp., New York, last month announced the opening of a new district office



T. Austin Young

at 344 Williams Street, N. W., Atlanta, Ga. T. Austin Young has been appointed district manager of the new branch. Mr. Young joined CSC in 1941 and for the past 10 years had been a sales representative in the automotive chemicals department.

—★—

Augello Joins Witco

Joseph R. Augello has joined the purchasing department of Witco Chemical Co., New York, it was announced recently by George Polzer, director of purchases. Mr. Augello will headquarter at the company's New York office. He formerly was associated with Washine Chemical Corp., Lodi, N. J., as sales representative.

Joseph R. Augello



Mrs. Huse in New Post

Mrs. Dorothy Sawyer Huse has been appointed director of home economics for the White



Mrs. Dorothy S. Huse

King Soap Co., Los Angeles. Mrs. Huse succeeds Miss Lois Cline who recently resigned. Mrs. Huse, who will headquarter at the company's main office and plant in Los Angeles, previously had served as home service director of Procter Electric Co. and in a similar capacity with the Southern California distributor of "Norge" appliances.

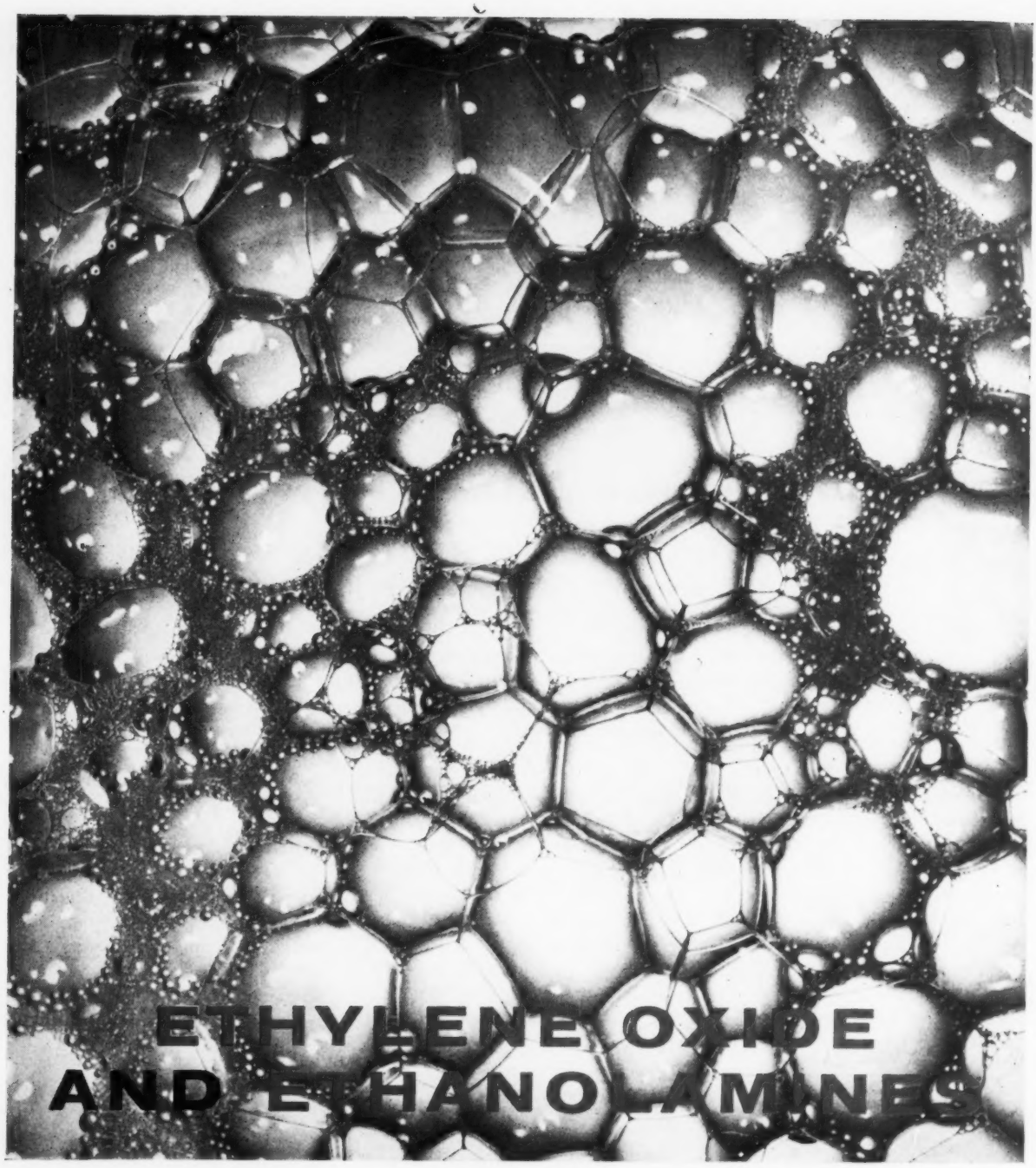
—★—

Rhodia Advances Brna

Paul Brna has been named district sales manager of the midwest division of Rhodia, Inc., New York, it was announced recently by Jacques Leroux, sales manager. Mr. Brna will headquarter in Chicago and be responsible for sales of Rhodia's products of the aromatic,

Paul Brna





Need ethylene oxide or mono-, di-, or triethanolamine? Allied's Orange, Texas plant—most modern in the industry—can supply you with oxide and amines consistently above standard specifications. Shipments available in tank cars, tank trucks or 55-gallon drums from the plant. Amines also available for delivery in tank trucks and 55-gallon drums from nationwide stock points. Write for samples, quotations, literature, technical service with no obligation.

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flavor, "Alamask" and pharmaceutical divisions.

In addition, the company announced the appointment of Frank Ball as midwest sales representative. His territory will include the Chicago, metropolitan area and Wisconsin, Minnesota, Iowa, Nebraska, Kansas, Missouri, Michigan and North and South Dakota.

★

Mich. Chem. Sales Up

Sales and earnings of Michigan Chemical Co., St. Louis, Mich., showed a substantial increase for the nine month period ended Sept. 30, it was announced recently. Sales totaled $6,981,735, as compared with $5,271,648, in the corresponding period of 1956. Net income was up to $572,309, equal to share earnings of 83 cents, from $349,965, in last year's nine-month period.

★

Wolter in New Post

Appointment of John U. Wolter as sales representative for the Michigan Alkali Division of Wyandotte Chemicals Corp., Wyandotte, Mich., was announced recently. Mr. Wolter will headquarter in Chicago. His territory will include Missouri, Oklahoma, Kansas, Nebraska and Colorado. With Wyandotte since 1951, Mr. Wolter formerly was supervisor of the control laboratory in the process engineering department. He previously was associated with Lever Brothers Co., Cambridge, Mass., as a senior research chemist.

John U. Wolter



Emery Names B'Hymer

Appointment of Orville W. B'Hymer as customer service manager for the fatty acids sales department of Emery Industries, Inc., Cincinnati, was announced last month by G. W. Boyd, sales manager. Since joining the company in 1947, Mr. B'Hymer has served as assistant sales manager of the division. In his new post, he will be in charge of technical service to customers of Emery's line of fatty acids.



Orville W. B'Hymer

★

Givaudan to Relocate

Givaudan Corp. and its associate companies, Givaudan-Delawanna, Inc., Givaudan Flavors, Inc. and Sindar Corp., all of New York, will move executive and sales offices next April to new and larger quarters in the Warner Building, 321 West 44th St., New York 36. According to E. R. Durrer, Givaudan president, the firm will occupy the seventh and part of the eight floor of the building. The enlarged area will be used for new perfume, cosmetic and flavor laboratories.

★

Foster D. Snell Expands

Foster D. Snell, Inc., consulting chemists, recently purchased a 10-story building adjacent to its present quarters at 29 W. 15th St., New York. The new building will provide expanded facilities for the firm's technical departments, as well as for two new technical groups. Additional facilities in the new quarters will include a new cosmetics laboratory, a new paint and varnish laboratory and a marketing and economic research department.

★

P&G Expands Canadian Unit

Procter & Gamble Co. of Canada, Ltd., Toronto, recently announced plans for immediate expansion of its Hamilton, Ont., research and development building which was constructed two years ago. Company officials said the additional facilities are necessary to provide space for the increased volume of research and development work which P&G has scheduled for the coming year.

More than 100 feet will be added to the length of the research building and a second story will be added to the entire structure. Floor space, including basement, will be increased from 22,464 square feet to 34,530 square feet. The enlarged building will house executive offices and the construction engineering and packaging divisions, in addition to research and development laboratories. Completion of the new facilities is scheduled for the summer of 1958.

★

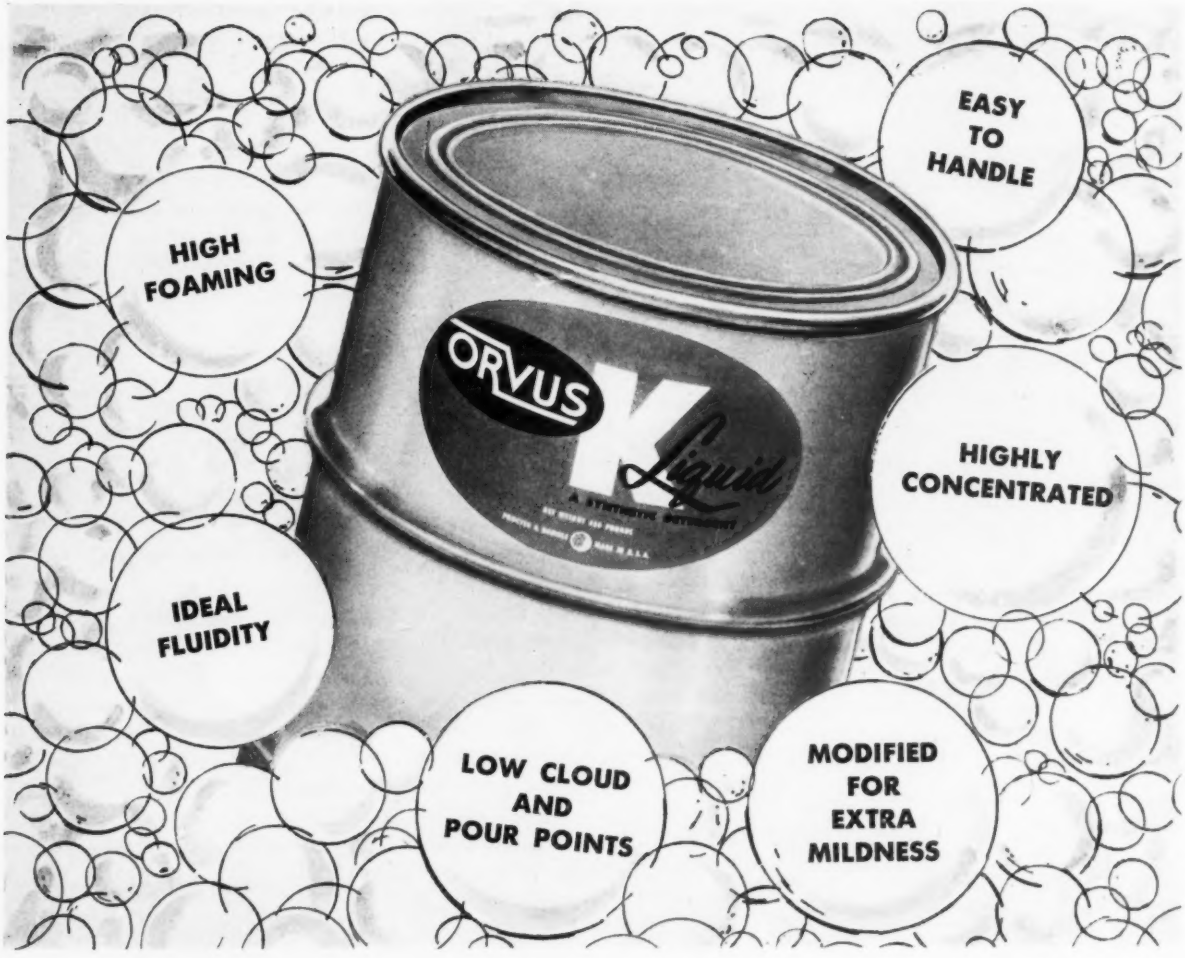
Aldag in New ADM Post

Charles A. Aldag has been named manager of the newly-opened Pittsburgh sales office of Archer-Daniels-Midland Co., Minneapolis, Minn., it was announced recently by James W. Moore, vice-president and director of marketing. The new branch is located at 300

Charles A. Aldag



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Lebanon Blvd., Pittsburgh 34. Mr. Aldag joined ADM as a technical sales trainee in 1955 and for the past year had been a technical sales representative in Cincinnati.

—★—

New Antara Rep.

Antara Chemicals Division of General Aniline & Film Corp., New York, has appointed Western Solvents & Chemicals Co., Detroit, as distributor for its 'Igepal" nonionic surfactants. Western will handle these products in Detroit and throughout eastern Michigan. "Igepals" are used for detergency, wetting, emulsification and dispersing in the manufacture of soaps, detergents and related specialties.

—★—

Pennsalt Sales Up

Pennsalt Chemicals Corp., Philadelphia, recently reported an increase in sales and a decline in earnings for the first nine months of 1957. Sales for the period ended Sept. 30 totaled $61,376,061, compared with $54,906,207 for the corresponding period a year ago. Income amounted to $2,596,805, equal to share earnings of $2.03, against $2,938,838 and $2.36, in the first nine months of 1956.

—★—

New Victor Plant

Victor Chemical Works, Chicago, recently announced that it will build a new plant for the manufacture of phosphates and other inorganic industrial chemicals on a 35-acre site adjacent to the Little Calumet River in South Chicago. The plant will be equipped with the latest shipping and receiving facilities, including rail siding, truck loading platforms and barge docks.

—★—

Wilson-Martin Names Logan

Roger L. Logan has been appointed new products development manager of Wilson-Martin, Philadelphia, a division of Wilson & Co., Chicago. Mr. Logan will be in charge of development of a series of new fatty acid chemical products, which are scheduled for commercial production sometime next year. He previously had managed research operations for Kessler Chemical Co., Philadelphia.



"Igepal" nonionic surfactant is being transferred from Antara Chemicals' tank car to compartment tank truck of Western Solvents & Chemicals Co., Detroit, for delivery to Western's customers in Detroit and eastern Michigan. Western has just been appointed distributor there for Antara Chemicals, a division of General Aniline & Film Corp., New York. Tank car was originally loaded at Antara's Linden, N.J., chemical plant.

—★—

Peerless Incorporates

Peerless Chemical Co., Baltimore, Md., manufacturers of "China-Brite" dishwashing blocks and powders has incorporated, it was announced recently by William T. Eichelberg, president. The company, which was established nearly 30 years ago, markets its "China-Brite" products through sanitary supply houses. Peerless also is engaged in specification, formulation and private label work. W. J. Price is vice-president of the firm.

Located at 1300 N. Fulton Ave., Baltimore 17, Peerless also sells a Borax hand soap containing "G-11" brand hexachlorophene. The firm makes soft soaps for sale to ships.

—★—

New Sole Bulletin

Information on "Sole-Onic PI" brand of distilled isopropyl palmitate became available last month in the form of a technical bulletin issued by Sole Chemical

Roger L. Logan, center, newly-appointed products development manager of Wilson-Martin, Philadelphia, is shown with Blake H. Hooper, left, general manager of the company's fatty acid division, and Thomas H. McGuine, research director. Mr. Logan will direct development of a series of new fatty acid chemical products, scheduled to reach the market next year.



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For Liquid Detergents: Ammonium Hydroxide; *For Toilet Bowl Cleaners:* Muriatic Acid.

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Personal Products

For deodorants & anti-perspirants: Aluminum Sulfate, Iron Free; Aluminum Chloride Solution.

For "Athlete's Foot" preparations: Sodium Thiosulfate (Hypo).

For personal aerosols—Genetron* Propellants.

Automotive Products

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For further information, call or write the nearest General Chemical office listed.

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Corp., 27 East Monroe Street, Chicago 3. The product acts as an oil soluble spreading and penetrating agent suitable for aerosol formulations, insect repellent lotions and sticks, hair preparations and a number of other specialties. Sole offers the product in 55 U. S. gallon steel drums, about 400 pounds net.

—★—

R&H Granted Injunction

The Federal District Court of West Virginia last month granted Rohm & Haas Co., Philadelphia, an injunction against Roberts Chemicals, Inc., Nitro, W. Va., in the latest development of a patent infringement suit filed by Rohm & Haas more than a year ago in behalf of its "Dithane" fungicide.

The order enjoins Roberts from making, using or selling any fungicide composition having as an active ingredient nabam, zineb, or any other salt of an alkylene bisdithiocarbamic acid.

Commenting on the action of the West Virginia court, D. S. Frederick, R&H vice president said, "A year ago our patent was held to be invalid by the District Court. In June of this year an appeal from this decision was decided in our favor, and our "Dithane" patent was upheld by the United States Court of Appeals for the Fourth District. The injunction just issued makes the latter decision effective, and gives us essential protection in continuing our research and development in agricultural chemicals."

—★—

"Ceramol" Bulletin

Aceto Chemical Co., Flushing, N. Y., last month issued a 20-page booklet describing "Ceramol," a self-emulsifying base for cream shampoos, soapless shave creams, and other specialties. Made of higher alcohols and higher alcohol sulfates, the compound is said to produce an oil in water emulsion which is stable to acids, alkalis, and metal salts. Samples and the booklet are available from Aceto at 40-40 Lawrence Street, Flushing 54, N. Y.

Reports on New Insecticide Materials

A NUMBER of new experimental pesticides are briefly described in a recent bulletin of the National Pest Control Association. "Dicapthon", American Cyanamid's trade name for 0-(2-chloro-4-nitrophenyl)0,0-dimethyl phosphorothioate, is an organic phosphate closely related to "Chlorthion". This material is in its second year of testing against German cockroaches. It is said to be quick acting and to have good residual properties. Described as a relatively safe material, its toxicity characteristics are somewhere between those of malathion and "Dipterex". Present supplies of the compound have an odor like that of malathion and tend to stain in alkaline waters or on alkaline surfaces.

An antibiotic which is active against fungi and insects has been developed in the antibiotic research laboratories of Montecatini, Milan, Italy. Called flavensomycin, the pure material is pale yellow, odorless, crystalline, soluble in water, some alcohols, and acetone. According to the first report, flavensomycin is highly toxic to mice, as well as being antifungal and insecticidal. There is little likelihood of this material being commercially available in the near future.

"Sevin", Union Carbide Chemicals' brand of N-methyl-1-naphthyl carbamate, is said to be the first carbamate of practical value in insect control. Other carbamates are weed killers and fungicides. Of low toxicity, the material is effective against several crop pests, but not against mites or houseflies. It has shown activity against the lone star tick and against German cockroaches. "Sevin's" low toxicity and the fact that it is not related to chlorinated hydrocarbons or organic phosphates warrants further testing as a household insecticide.

N-pentylphthalamide, repellent to both insects and rats, was synthesized by the Entomology Research Division of USDA. Of several hundred compounds tested it was the only material found superior as an insect repellent to pyrethrins synergized with piperonyl butoxide. No commercial production is reported.

An experimental rodenticide called "Cefro" is being made on a limited scale by Virginia-Carolina Chemical Corp. Described chemically as a chlorinated ethyl furoate, the material is a dark brown liquid with a pungent fruity odor. Formulations currently available contain five per cent "Cefro" in a polyvinyl acetate emulsion or 40 per cent in granules. The emulsion can be sprayed or painted, but leaves a sticky or glossy residue. The compound has a high flash point and toxicity comparable to lindane and DDT.

—★—

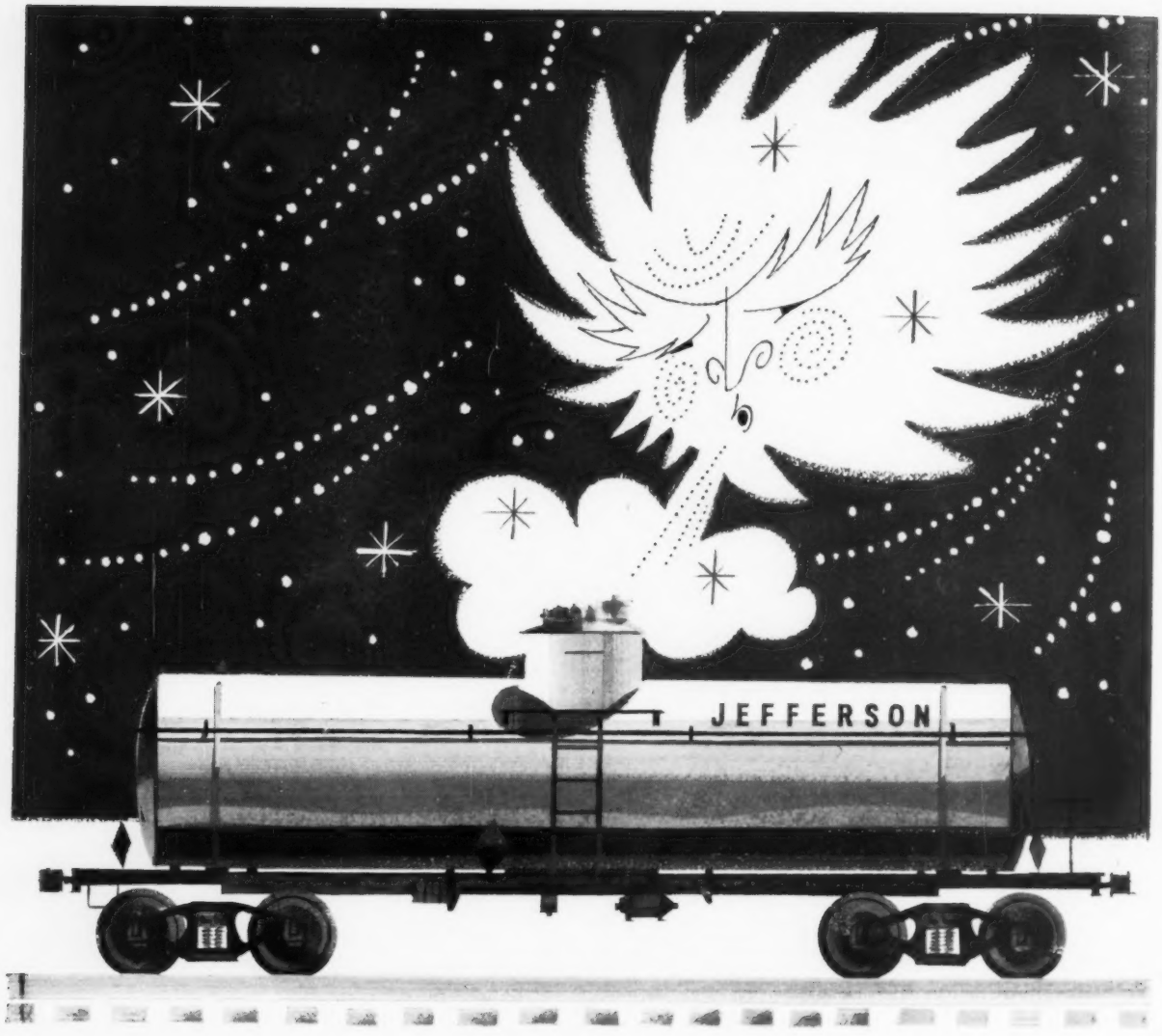
Signs FTC Consent Order

The Federal Trade Commission recently approved a consent order prohibiting Lanolin Plus, Inc., Chicago, from representing that competitors' detergent shampoos will burn hair and from using scare tactics to induce the purchase of its "Lanolin Plus" shampoo.

The commission previously had charged that the company's television advertising frightens "beauty conscious" young girls by falsely representing that detergent shampoos will burn their hair.

The complaint cited both pictures and words of the TV commercial showing a model washing her hair and looking up startled at the words "Stop, don't burn your hair with harsh detergent shampoos." The video sequence then shows the model scooping up a handful of suds and looking at them "scared and puzzled" while the announcer explains that detergent shampoos also strip hair of "vital natural oils and leave it dry, brittle and dead looking."

The agreement is for settlement purposes only and does not constitute an admission by the company that it has violated the law.



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Jefferson
CHEMICAL COMPANY, INC.

Bland in New Lever Post

David Bland has been appointed product manager of "Rinso Blue" detergent and "Rinso" soap, it was announced recently by Lever Brothers Co., New York. With the company since 1954, Mr. Bland previously had been product manager for "Breeze" and "Silver Dust" detergents.

—★—

Pilot Appoints Six

Robert W. Burge has been named sales manager of Pilot California Co., Los Angeles, it was announced recently by John Morrisroe, president and general manager. Other appointments include: Robert Ruff, administrative assistant to Mr. Morrisroe; Richard W. Atwood, plant manager; John Pietz, manager of the application and product development department; Oscar Kolke, chief engineer; and Carl Warner, office manager.

—★—

New Dow Sales Section

Organization of a pharmaceutical sales section to handle sales activities of its complete line of pharmaceutical chemicals was announced recently by Dow Chemical Co., Midland, Mich. The new branch takes the place of the former fine chemicals sections.

The new section will operate under the direction of George E. Hardy, previously assigned to the fine chemicals sales staff. Donald B. Black, who had headed the fine chemicals section for the past several years, has been transferred to Dow's chemicals department where he will handle special projects.



Mrs. Annabelle R. Farrell receives diamond wrist watch and pin from J. J. Emery, president of Emery Industries, Inc., Cincinnati, during ceremonies commemorating her 25th year with the company. She is the first woman member of the firm's 25 Year Club. Mrs. Farrell is active in the Cosmetic Career Woman and has served on its board of governors.

—★—

Wilson-Martin F. A. Guide

Wilson-Martin Division of Wilson & Co., Philadelphia, recently issued a "Slide Guide to Modern Fatty Acids" to introduce 16 new products in its line of fatty acids and to announce new standards for established products. Actually the slide guide is an eye saving device for the speedy selection of any given fatty acid and its specifications from a tabulated list. A neutralization chart and a table showing physical constants round out the information provided by the guide. Copies are available from Wilson-Martin at Snyder Avenue & Swanson Street, Philadelphia 48.

Kelite Adds Four

Four appointments to its Los Angeles research and development laboratories staff, was announced last month by Kelite Corp., Berkeley Heights, N. J. The new appointees are: Morton Schwartz, senior electrochemist; Frederick Larsen, physical chemist; Bruce Davis, inorganic chemist; and Ronald North, analytical chemist.

—★—

Olin Appoints Russell

Laurence E. Russell recently was named director of marketing for the organic chemicals division of Olin Mathieson Chemical Corp., Baltimore. He is responsible for sales, advertising, sales promotion and sales development. He had been sales development manager for the industrial chemicals division.

Three other sales appointments in the organic chemicals division include: Reid Malcolm, sales manager; B. N. Schrauf, sales development manager; and Albert H. Gower, product sales manager.

Mr. Malcolm previously was associated with Dow Chemical Co., Midland, Mich. and R. M. Hollingshead Corp., Camden, N. J. Mr. Schrauf formerly was assistant manager of market development for Olin Mathieson's industrial chemicals division and Dr. Gower has held various administrative posts at American Cyanamid Co., New York and Sun Chemical Corp., Long Island City, New York.

Donald B. Black



George F. Hardy



Laurence E. Russell



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COVER ODOR O.B. No. 1714 (I)
COVER ODOR N-43 (I)
COVER ODOR N-4 (I) (PE)
COVER ODOR P. No. 1954 (S)
COVER ODOR P.C. No. 3127 (S)
COVER ODOR P.D. No. 250 (P)
COVER ODOR R.C. No. 604 (PE)
COVER ODOR SASS. No. 1954 (A)
COVER ODOR S.T. No. 275 (P)
COVER ODOR W.A.S. No. 300 (W)
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Oil Jasmin No. 613
Oil Mimosa No. 615
Oil Wild Rose No. 55
Imitation Geranium S

LIQUID SOAPS

Oil Honeysuckle No. 61
Oil Mint No. 523
Oil Narcissus No. 614
Oil Vermont Pine No. 55
Imitation Geranium No. 24

SHAMPOO ODORS

Oil Bouquet Apple Blossom No. 8240
Oil Bouquet Almond No. 8262
Oil Clover No. 888
Oil Corylopsis No. 55
Oil Bouquet H.O. No. 8267
Oil Bouquet M. No. 55
Oil Bouquet Narcissus No. 55
Oil Bouquet Wild Rose No. 55
Oil Bouquet TV No. 55

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Gardenia No. 55
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Oil Lilac No. 4315
Oil Narcissus No. 4316
Oil Rose No. 4317
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Scott Succeeds MacMillan

Leo A. Scott has been named to succeed the late Hugh R. MacMillan, Jr., as vice-president of



Leo A. Scott

manufacturing of Colgate-Palmolive Co., New York, it was announced late last month by Edward H. Little, chairman and president.

Mr. Scott joined Colgate 26 years ago. After serving in various capacities in the company's plants in Kansas City, Mo., Berkeley, Calif., and Jeffersonville, Ind. he was transferred to the Jersey City unit where he was made production supervisor. In 1943 he was named plant superintendent and in 1950 became general superintendent. Earlier this year, he was appointed director of manufacturing for the household products division.

—★—

Acrylics for Floor Waxes

Two acrylic emulsion polymers developed especially for use in self polishing floor waxes were introduced recently by Rohm & Haas Co., Philadelphia. The most important assets which these polymers, "Rhoplex D-70" and "Rhoplex B-74", contribute to floor wax films are freedom from initial color and resistance to yellowing upon aging. When blended with correct additives, these resins form glossy durable films, combining good resistance to water spotting with easy removability by ordinary household cleaning agents since they are redispersed by mild alkali.

Formulation with polyethylene wax lowers minimum film forming temperature and improves leveling properties. Addition of polyethylene wax beyond 20 per cent ceases to be beneficial. Minimum film forming temperature and resistance to water spotting are affected by the volatility of the alkali chosen as neutralizing base. Addition of small amounts of "Carbitol" as a fluxing aid reduces the minimum film forming temperature, while improving freeze-thaw stability, gloss, hardness, and possibly leveling.

All aspects of floor polish formulations with "Rhoplex D-70" and "B-74" are presented in a feature article by Richard Zdanowski, of Rohm & Haas Research Laboratories, published in *Resin Review*, R & H house organ, volume VII, No. 2.

—★—

Hooker Appoints Two

Clarence A. Stiegman has been named technical director and J. Howard Brown, general manager of the research and development department of the Niagara Division of Hooker Electrochemical Co., Niagara Falls, N. Y. Dr. Stiegman replaces Dr. Johannes H. Braun, who recently resigned.

Dr. Stiegman, who had been director of product development, since last January, will continue in that post. A former director, vice-president and technical director of Oldbury Electrochemical Co., he joined Hooker last year when the two firms merged.

Dr. Brown, also served with Oldbury, as assistant technical director. After the 1956 merger with Hooker, he was named manager of research and development of the Oldbury Products Division.

C. A. Stiegman



J. H. Brown



Atlas Appoints Treon

Joseph F. Treon has been appointed head of the newly-established toxicology section in the



Joseph F. Treon

chemical research department of Atlas Powder Co., Wilmington, Del. The new section will be responsible for development of safety procedures in handling and application of Atlas' line of chemical products. The work previously was done by universities and research institutions on a contract basis. Dr. Treon, who joined the company last May, formerly was associated with the Kettering Laboratory of the University of Cincinnati's College of Medicine.

—★—

New Carbide Executives

D. B. Benedict has been elected a vice-president of Union Carbide Corp., it was announced last month by Morse G. Dial, corporation president. Mr. Benedict had been president of Union Carbide Chemicals Co. division. In his new position he will be responsible for the corporation's chemicals and plastics activities.

Mr. Benedict is succeeded as president of Union Carbide Chemicals Co. division by E. E. Fogle, vice president of the division since 1954. At the same time H. D. Kinsey was appointed president of the newly formed Union Carbide Olefins Co. division. The new unit will handle production and sale of ethylene, propylene, and other hydrocarbon products.

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MADE-TO-ORDER FRAGRANCES for PERFUMES, TOILETRIES and COSMETICS

▲

SUPPLIERS of ESSENTIAL OILS, AROMATIC CHEMICALS, BASIC PERFUME and FLAVOR RAW MATERIALS

Soapers at Hotel Show

Eight manufacturers from the soap and detergent industry were among the more than 528 exhibitors at the National Hotel Exposition held last month at the New York Coliseum. The show, held Nov. 11-15, attracted a record-breaking attendance of 55,000 owners and operators of hotels and allied mass housing and feeding businesses.

The visitors to the Hotel Show came from every state in the U. S., as well as Canada, Cuba, South America and many European countries. Three display floors of the vast Coliseum were filled with a total of 728 exhibits featuring food service equipment, furnishings and food products.

Co-sponsors of the National Hotel Exposition were the Hotel Association of New York City, Inc., and the New York State Hotel Association, Inc. Chairman of the 42nd edition was Pierre Bultnick, general manager of the St. Regis Hotel in New York City.

Among the exhibiting companies at the exposition were the industrial soap dept. of Armour & Co., Chicago; the industrial dept. of Armour & Co., Chicago; the industrial dept. of Colgate-Palmolive Co., New York; "J" Chemical

(*Turn to Page* 287)

Soap, detergent and chemical specialties makers exhibiting at the National Hotel Exposition at the Coliseum in New York last month, left to right and top to bottom: Samuel Pinto, Pinto's Luncheonette, Bronx, N. Y., and Don Hill, institutional department of Procter & Gamble Co.; Mel Rosenberg, "J" Chemical Works, New York and Earl Humis, Camp Regis, Scarsdale, N. Y.; Alex E. Sheddon, Jr., Camp Hawthorne, Garden City, N. Y., and George Craft, J. B. Ford Division of Wyandotte Chemicals Corp., Wyandotte, Mich.; Robert Mickels, Armour & Co., Chicago, and Marilyn Mandel, Samuel L. Greenspan Co., New York.

In photographs at right: Anthony Cambas, Congress Plaza Hotel, Monticello, N. Y., and Frank Cock, John T. Stanley Co., New York; Milton Markowitz and Harold Moss, both of General Services Administration, New York, and Gerald Robinson, industrial division, Lever Brothers Co., New York; Arthur S. Baer, Long Island Soap Co., Brooklyn, and Charles Smith, General Baking Co., New York; Robert Hyde, Colgate-Palmolive Co., New York; H. Miller, Sabloff's Hotel, Liberty, N. Y., and J. M. Geist, Colgate.















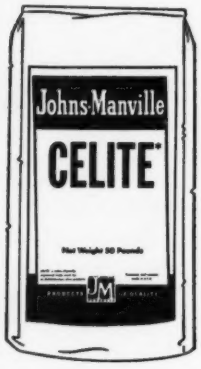


Which filler gives mild abrasive action?

Which filler provides easier "wipe-off"?



CELITE does both jobs in your polish-cleaner



Did you know that the simple addition of one mineral filler gives your polish-cleaner two important properties?

1. Celite* imparts a mild, gentle abrasive action due to the porous thin-walled structure of its diatomite particles. Celite never scratches because when applied, each particle collapses and acts like a tiny buffer. It is these microscopic buffers that remove tarnish and help produce a long-lasting brilliant lustre.

2. Celite also provides easier wipe-off. The highly absorptive powders soak up and retain dirt and grease films that would otherwise resist wipe-off and mar surfaces.

For these reasons Celite has gained wide acceptance as a filler in leading silver polishes and automobile polishes and cleaners.

Johns-Manville produces Snow Floss and Super Floss, two special grades of Celite processed specifically for the polishes industry. Each is carefully controlled for maximum uniformity from bag to bag. Find out which grade best fits your needs. Call your nearby Celite engineer or write Johns-Manville, Box 14, New York 16, N. Y. In Canada, Port Credit, Ont.

*Celite is Johns-Manville's registered trade mark for its diatomaceous silica products.

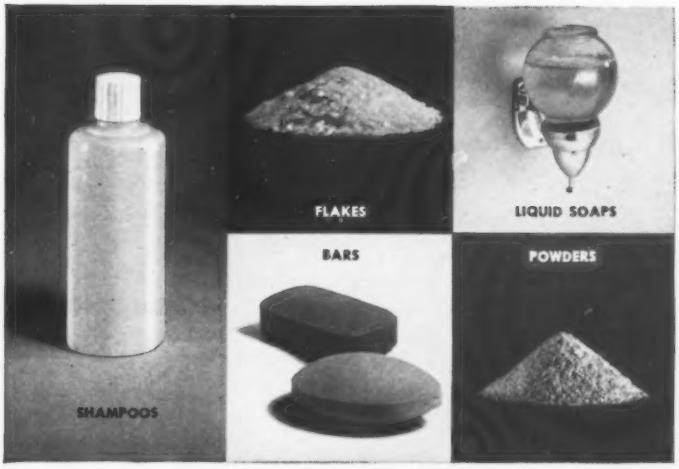
Johns-Manville CELITE

INDUSTRY'S MOST VERSATILE MINERAL FILLER

VERSATILE VERSENE

(The tetrasodium salt of EDTA*)

ends product variability in all types of detergents



Improves processing and performance under most water hardness conditions

The complete stability of the Versene® products, together with their ability to inactivate practically all troublesome metal ions in solution, has made them invaluable in the manufacture of soap and synthetic detergents. Used singly or in combination, they actually form new compounds with metal ions which remain chelated in hot or cold, acid or alkaline solutions. Equally advantageous, Versene products come in several forms—liquid, powder, beads and flake—for easy incorporation into detergent bars, powders, flakes, liquids; maintenance, metal, household and laundry cleaners.

In liquids — By including Versene, shampoos and other liquid formulations can be prepared with a clarity that lasts over long periods. In fact, you get the same clarity distilled or rain water makes possible, but you use plain tap water! Calcium and magnesium ions become harmlessly locked up to simplify filtration and eliminate the need for chilling. In addition, quantities of Versene, over and above the amount needed to chelate hardness and other trace metals, impart "built in" protection for concentrated liquid soaps. Colors come out light and remain light. There's protection against rancidity, and dispensing equipment won't clog.

Just how much Versene is needed?

As an example, take Versene 100, the liquid form and the most economical. A concentration of 0.10 to 1% assures product stability for shampoos and also increases lathering properties. Or consider the use of Versene in hard soaps.

In hard soaps additions can be made at the mixing machine or in the kneader at concentrations of 0.50 to 1% for liquid Versene, or 0.25 to 0.50% for Versene powder (based on soap content). Whichever form of Versene is most suitable, the results are the same—you get metal ion control in processing and end-product use.

Now, with Versene, how easy it is to produce a bar soap that is protected against rancidity and spotting due to trace metals . . . that leaves no bathtub ring . . . that can resist water of 10 grains hardness! How easy it is, in fact, to gain a competitive edge with Versene in most any type of detergent you might manufacture. It will pay you to look into versatile Versene by requesting samples and technical data, today. For more information on the chemistry of chelation, Dow chelating agents and their uses —contact your Dow sales office for our booklet, "Keys to Chelation". Or write us direct. THE DOW CHEMICAL COMPANY, ORGANIC CHEMICAL SALES DEPARTMENT, Midland, Michigan, Dept. CA 1307A.-1.

* ethylenediaminetetraacetic acid

YOU CAN DEPEND ON DOW



States Mr. Van Wirt: "Every product a consumer buys will soon be more colorful; color is a vital factor in nearly every industry's battle to win more business."

"Wyandotte meets the exacting standards we expect from our suppliers of raw materials"

—Alfred E. Van Wirt, vice president and technical director, Imperial Paper & Color Corporation

From its small but sound beginnings as a paper-converting company, Imperial Paper and Color Corporation, Glens Falls, N.Y., has emerged as the world's largest chemical-pigment color plant.

Says Alfred E. Van Wirt, vice president and technical director of the company: "We buy raw materials from companies in all parts of the globe . . . materials which we transform into pigments that are used in everything from paint, ink, paper, rubber, plastics, and textiles to the firm's own famous wallpaper line.

"To guarantee top quality, and insure uniform pigment colors, constant research and analytical control goes on at Imperial Paper and Color Corporation. For, it's through advances in chemistry and color technology that consumers enjoy all the benefits of beautiful, uniform colors at practical prices . . . whether in their cars, clothing, cosmetics, wallpapers, or home furnishings.

"We expect our suppliers to be research-minded, too – particularly those who furnish vital chemicals. Wyandotte is one of these companies. We know from experience that Wyandotte meets our exacting standards; but more than that, they are always on tap to supply technical help, should we need it."

Wyandotte is a basic supplier of organic and inorganic chemicals for industry. Wyandotte chemicals are used in paper, textiles, metals, glass, washing and cleaning products, food, pharmaceuticals . . . to name just a few.

If you're striving for consistently high uniformity and quality in your products, remember that the chemicals you use play a mighty important role. Why not talk over your requirements with a Wyandotte representative today; or write us, giving details of your needs. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS

MICHIGAN ALKALI DIVISION

Pacing Progress with Creative Chemistry

SODA ASH • CAUSTIC SODA • BICARBONATE OF SODA • CHLORINE • MURIATIC ACID CALCIUM CARBONATE • CALCIUM CHLORIDE GLYCOLS • CHLORINATED SOLVENTS SYNTHETIC DETERGENTS • OTHER ORGANIC AND INORGANIC CHEMICALS

"Strobane," and "Perthane" at two per cent and methoxychlor at a concentration of three per cent were compared in two series of tests. These four formulas also contained 0.2 per cent pyrethrins and 0.5 per cent piperonyl butoxide. The results of these tests are shown in Table 6. Although satisfactory in knockdown, none of these formulas was as effective with regard to mortality against the Fowler strain as the OTA was against the normal laboratory strain.

Summary and Conclusions: TYPICAL aerosol formulations were tested against the Fowler strain of resistant house flies. Tests were made by the Official CSMA Aerosol Method for flying insects. The results show that the Official Test Aerosol (OTA) and many aerosols now on the market give very poor results when tested against resistant house flies. Formulas containing DDT, methoxychlor, Perthane and Strobane were included in these tests. A three fold increase in dosage rate did not bring the performance of aerosols of this type up to standard requirements. On the other hand, formulas containing only pyrethrum synergized with piperonyl butoxide, at concentrations which gave good results against non-resistant house flies, also gave good results against the resistant strain at no increase in concentration or dosage rate.

These results point up the necessity of formulating household insecticides so that they will control resistant insects. Since house flies and other household insects are becoming more generally resistant to insecticides, a reappraisal by industry of the adequacy of formulas now on the market becomes increasingly important.

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Metcalf, R. L. 1955—Organic Insecticides. Their Chemistry and Mode of Action. 392 pp., Interscience Publishers, New York.

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Perfumers' Proceedings

The American Society of Perfumers last month announced availability of the proceedings of its Third Open Symposium on Fragrance, held earlier this year. Copies at $1.00 each may be obtained from the society's secretary, O. L. Marton, Box 229, Clifton, N. J.

—★—

Process Names Three

Conrad Gaider has been appointed manager of technical sales and services for Process Chemicals Co., Los Nietos, Calif., it was reported recently. It was also announced that Oscar Scherr has been named research director and Louis Montoya has joined the firm as cosmetic chemist.

Mr. Gaider formerly was director of research and development for Patek & Co., San Francisco, while Mr. Scherr was the company's chief research chemist. Mr. Montoya previously served for 10 years with Studio Cosmetics Co., Hollywood, Calif., where he was engaged in cosmetic formulation research.

Table 6. Aerosol tests against resistant house flies. Average of five large group tests.

Aerosol	Dose/ 1000 cu. ft. grams	Aerosol Test Knockdown (%) 5 min.	10 min.	15 min.	Aerosol Test Knockdown Mortality (%)	Aerosol Test Mortality (%)
Series I						
A-848 .2% Pyrethrins .5% Piperonyl Butoxide 2.0% DDT	3.1	23	42	58	37	38
A-852 .2% Pyrethrins .5% Piperonyl Butoxide 2.0% Strobane	3.2	21	45	68	59	61
OTA 0.4% Pyrethrins 2.0% DDT	3.1	26	49	61	19	21
OTA (Non-resistant flies)	3.1	24	40	52	52	74
Series II						
A-885 0.2% Pyrethrins 0.5% Piperonyl Butoxide 3.0% Methoxychlor	3.1	20	44	66	46	47
A-886 0.2% Pyrethrins 0.5% Piperonyl Butoxide 2.0% Perthane	3.1	20	40	66	44	45
OTA 0.4% Pyrethrins 2.0% DDT	3.0	28	43	56	15	17
OTA (Non-resistant flies)	3.0	24	37	49	49	77

John Hanser, Jr., Dies

John Hanser, Jr., 78, president of John Hanser Soap Co., Milwaukee, died Nov. 13 at his home in that city. Born in Trier, Germany, Mr. Hanser came to this country at the age of 11. He worked in his father's Milwaukee soap factory until 1919 when he founded his own company with a $500 loan, a kettle, a boiler and a press. In later years his two sons joined him in the busines. David J. is now a vice-president and John A. is secretary treasurer.

After arriving in the United States in 1890, Mr. Hanser gained his first experience in the soap business by helping his mother, who also was a soapmaker, after school. When the family opened its factory, he continued to help, getting 10 cents per week until he was 18. He was making $1 per week by the time he was 24.

Besides his two sons, Mr. Hanser is survived by his wife, Armanda, and three brothers.

—★—

Models Help P&G

Engineering has modernized industry, and now industry needs to modernize itself, according to Robert J. Short, director of engineering and exploration at Procter & Gamble Co., Cincinnati. In a talk last month before the mechanical and electrical engineering seniors at Cornell University, Mr. Short said that "engineers have done a good job in modernizing factory operations and thus enabled the United States, with a relatively small labor force, to out-produce the rest of the world. Now the same modernization must be applied to the engineering profession itself."

As one example of modernization, which has already made great strides in engineering, Mr. Short cited the use of modeling techniques at Procter & Gamble.

P&G has found that constructing models is an extremely practical technique for planning and illustrating complex building projects, he said. Planning itself can be done faster and cheaper. Alternatives resulting in selection of an ideal plant can be more readily studied and construction forces can understand more easily what is wanted. All this, he said, is a significant contribution to reduction in construction time and overall cost.

Mr. Short also stated that P&G presently has a program under way studying the adaptation of electronic data processing as an engineering tool. This is another area where signfiicant advances are expected in saving valuable engineering time, he said.

—★—

Emery Names De Lollis

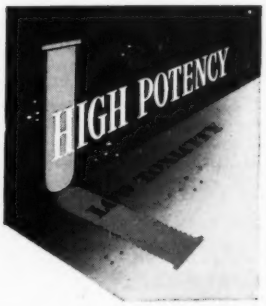
Robert C. De Lollis has been appointed sales representative in the Mid-Atlantic district of Emery Industries, Inc., Cincinnati, it was announced last month. He will handle Emery's complete line of fatty acids in central and northeastern Pennsylvania, northern New

NOW AVAILABLE!

OTTAFECT No. 3

The modern answer for efficient, LOW COST disinfectants.

By every test Ottafect No. 3 (liquid isomers of chloroxylenol) is far more economical per phenol coefficient than any other phenolic material. Although slightly irritating its low cost and powerful germicidal and fungicidal action opens up wide possibilities for products formulated with Ottafect No. 3.



As an additive to or replacement for pine oil, cresylic acid, tar acid oils and all phenolic materials, Ottafect No. 3 will step up the efficiency of your products while cutting costs of the overall formulations.

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Write for full details immediately so we can explain the advantages of Ottafect No. 3. No obligation of course.

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Robert C. DeLollis

Jersey, western Maryland and central New York state. He succeeds P. N. Leech, who recently was transferred to the company's Chicago office.

—★—

Lampe in New C-P Post

Robert J. Lampe has been named to the newly-created post of New York regional manager for the associated products division of Colgate-Palmolive Co., New York. He will headquarter at the company's Newark, N. J., office. He formerly was director of sales training for C-P's industrial department.

Prior to that, Mr. Lampe had been industrial sales supervisor of the Chicago industrial division, a position to which he had been appointed in January, 1951. He joined the company in 1947 and served as an industrial salesman in southern Ohio, parts of Kentucky and West Virginia until his transfer to Chicago four years later.

Robert J. Lampe



New Type Emulsifier

A water-in-oil emulsifier capable of forming thermostable, tasteless, and odorless emulsions has recently become available in the United States from Morningstar, Nicol, Inc., New York. "Emocithin," said to be in extensive use in Europe, is a development of W. A. Scholten's Chemische Fabrieken, Foxhol, Netherlands, whose products are distributed in the United States by Morningstar on an exclusive basis.

The product, which is said to be non-toxic, is covered by U. S. patent No. 2,552,706 which specifies that the molecule contains residues of a polyhydric alcohol, a fatty acid and a polybasic organic acid which are polymerized by heat and/or condensed until they exhibit emulsifying properties. When used in concentration of about two per cent "Emocithin" is suitable for incorporation of water in well dispersed form in paste and liquid waxes either to improve their physi-

Another Shanco **FIRST**

SHANCO 340

A Dispersible Resin For Your

PLASTIC BASE FINISHES

A Styrene-Vinyl Type Resin in Solid Form — Ground

- **LOW COST**
- **NO WATER**
- **SAVE FREIGHT**
- **EASY HANDLING**

—★—

Write for Samples and Literature.

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SHANCO PLASTICS & CHEMICALS, INC.

TONAWANDA, NEW YORK

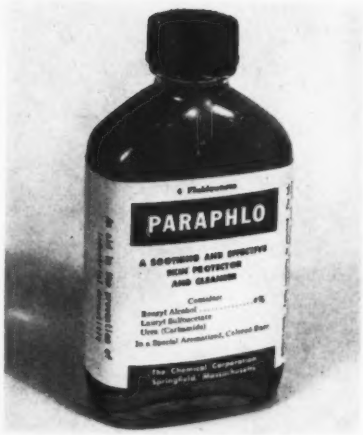
cal characteristics or to act as extender of bulk or weight. It might be used for the formulation of corrosion inhibitors into lubricating oils and for the use of water soluble colors and other additives in fatty media. Where the water-in-oil emulsion must stand up to elevated temperatures either in processing or its end use, "Emocithin" based emulsions offer heat stability up to 200°F.

Morningstar supplies the emulsifier in semi-solid form, packaged in 60 pound cans, two cans to the case. Extensive use data based on European experience is available from Morningstar, Nicol, Inc., at 630 West 51st Street, New York, N. Y.

★

New Skin Cleanser

A new liquid skin protector and cleanser designed for industrial use was introduced recently by Chemical Corp., 54 Waltham Ave., Springfield, Mass. Called "Paraphlo," the new product is claimed to prevent dermatitis resulting from contact with greases, dyes, acids, solvents, inks and irritating drugs. Containing a non-toxic benzyl concentration, the cleaner also is said to relieve itching which often accompanies industrial skin disorders.



★

New Reliable Car Wash

A new car wash that is claimed both to wash and protect the finish was introduced recently by Reliable Laboratories, Detroit. Trade-named "No-Hoze," the product is applied with two soft cloths and seven to eight gallons of water.

Said to require no rinsing, "No-Hoze" is self-drying. Packaged in eight and 17 ounce bottles.



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Compounds and blends made to your specifications

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CERITA WAXES

New Resins for Detergent Bars

A NEW class of high molecular weight water soluble resins was introduced by Union Carbide Chemicals Co., New York, late last month. Detergent bars, shampoos, hair sprays, dentifrices, water soluble unit packages for detergents, soaps, etc. are among applications suggested for this new group of polymers.

"Polyox" resins are made by a new process which permits the coupling of as many as 100,000 ethylene oxide molecular units, compared with a maximum of 500 units linked to form a solid "Carbowax," Carbide's brand of polyethylene glycols.

A white granular powder, "Polyox" comes in five different grades ranging in molecular weight from 100,000 to several million. At low concentrations the resins form slightly cloudy moderately alkaline aqueous solutions. A one per cent solution of a high molecular grade has a viscosity of 460 poises at 25°C compared with 12 poises for the highest mol grade of CMC. Viscosities of "Polyox" solutions are dependent on shear rate but are relatively unaffected by short term changes in pH or by presence of dissolved salts. They have no tendency toward biological decomposition which eliminates the need for a preservative; no biological oxygen demand which precludes waste disposal problems; and no surface activity. In addition to being water soluble the polymers are soluble in a number of organic solvents.

Highly crystalline and thermoplastic, "Polyox" resins form films or sheets which can be readily heat sealed. In the dry state, at relative humidity levels below 75 per cent their moisture pick up ranges from one half to three per cent.

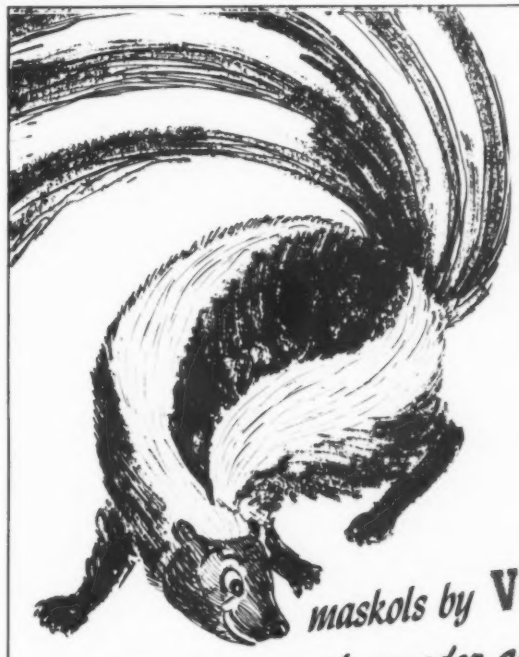
In the detergent field "Polyox" resins are suggested for incorporation in synthetic detergent bars and shampoos in which they are said to improve creaminess of the lather, lubricity, and feel. Concentrations of two per cent by weight of the bar are recommended. They should be suitable for formulating with detergents and extruding as a film for use as a completely soluble non residual soap or detergent leaf or sheet.

One half to three fourths per cent by weight incorporated into a synthetic detergent based toothpaste yields a stable product of good foaming properties and mouth feel, even in the case of the hard to formulate fluoride combinations.

The polymers are said to perform well in pressure packaged hair sprays (one half to one per cent of total formulation) and in aerosol applied plastic bandages.

Formulation into floor products would appear a possibility pro-

(*Turn to Page* 270)



maskols by VAN DYK

Created to mask, re-odor and enhance.

WHAT YOUR CUSTOMER MAY **RESENT**

LET US **RE-SCENT**

Maskols by Van Dyk make your products more saleable and are developed for use in:

- **Insecticides**
- **Household Cleaners**
- **Disinfectants and**
- **Chemical Specialties**
- **Petroleum Products**
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We invite your inquiries regarding any particular odor problem.



VAN DYK

and Company, Inc.

Belleville, New Jersey

NEW YORK CHICAGO LOS ANGELES TORONTO

vided the water spotting problem can be overcome.

"Polyox" film is suggested for pre-measured unit packaging of materials intended for dissolution or dispersion in water, such as soaps, syndets, and bath products.

Some of the most important applications pertain to the textile industry but may eventually enter the field of household specialties in the form of temporary antistatic agents, for instance.

The polymers are currently in limited production at South Charleston, W. Va. Substantial commercial scale output is scheduled for early 1958 and a large scale production unit is planned for completion in 1960.

"Polyox" resins are made in five grades: WSR-35; WSR-205; WSR-301; and WSR-701; and a textile warp sizing grade. They are available in eight-ounce sample bottles and in five-, 25-, and 50-pound containers. A development price of $1.50 per pound has been set for the first four and 75 cents for the warp size grade. An ultimate selling price is envisaged ranging from 35 to 50 cents per pound.

—★—

Lada Joins Onyx

Appointment of Arnold Lada as chief of technical service for the industrial division of Onyx



Arnold Lada

Oil and Chemical Co., Jersey City, N. J., was announced last month by F. O. Robitschek, president. Prior to joining Onyx, Dr. Lada served for three years with Toni Co., as research and development chemist. He also had worked for four years as a research chemist with the U. S. Food and Drug Administration in Washington, D. C.

New National Brochure

A new brochure describing applications and listing complete product data of its antiseptic liquid soap was announced recently by National Chemical Laboratories, Philadelphia. The product, designed to combat industrial dermatitis and other skin infections, contains "G-11" brand hexachlorophene. Copies of the booklet are available to the firm's distributors.

—★—

"Renex" Data Listed

Properties and applications of "Renex" detergents are tabulated on a four page folder published last month by Atlas Powder Co., Wilmington 99, Del. Included are the "Renex 20" series, a group of polyoxyethylene esters used in formulating commercial and household detergents; "Renex 30" polyoxyethylene ether alcohols for metal cleaning and liquid dishwashing formulations; and "Renex 600" polyoxyethylene alkyl aryl ethers suitable for a wide range of deter-

Leading
No-Rub Floor Polish
Manufacturers use

CERTIFIED REFINED
WAX FREE SHELLAC
for better
GLOSS-LEVELING-STABILITY

Certified SHELLAC

BRADSHAW-PRAEGER & CO.
IMPORTERS BLEACHERS MANUFACTURERS
3248 WEST 47TH PLACE, CHICAGO 32, ILL.

gent, emulsifying, and other uses. Information on 14 liquid and solid nonionics is supplied on the chart which is published in the form of a file folder to hold eight forthcoming Atlas detergent formulating bulletins. Copies of CD-117 are available from the company's chemicals division.

—★—

Corn Oil Booklet

Approximately 275 million pounds of crude corn oil are produced annually in the United States. Soap making is the most important non-food use of this material. It is used also in the manufacture of insecticides, rust preventive compounds, textile chemical specialties and numerous other products. These facts along with other very comprehensive information on manufacture, properties and actual and potential applications of corn oil are presented in an attractive, 20-page, illustrated booklet published by and available from the Corn Industries Research Foundation, Inc., 3 East 45th Street, New York 17.

—★—

Arthur L. Bobrick Dies

Arthur L. Bobrick, 69, board chairman of Bobrick Dispensers, Inc., Los Angeles, died at his home in that city Nov. 13, of a coronary occlusion.

A native of Boston, Mr. Bobrick was a graduate of California Institute of Technology and founded the soap dispenser company that bears his name. He is survived by a sister, Mrs. Alfred Bobrick Wright of Pasadena.

—★—

New Newport Fla. Plant

Newport Industries Co. Division of Heyden Newport Chemical Corp., New York, last month opened a new three million dollar naval stores plant at Telogia, Fla.

The new plant, Newport's fifth naval stores production unit, will produce FF grade rosin, turpentine, pine oil and dipentine, according to E. J. Sisson, vice-president of Heyden in charge of Newport Industries' operations.

Kelite Sales Meeting

A report by Dr. Samuel Spring, laboratory director of Kelite Corp., Berkeley Heights, N. J., on latest government acceptance of Kelite products, including a nonphenolic paint stripper, an emulsion cleaner, two aluminum brighteners and cleaners and a zinc phosphate coating, was the highlight of the company's annual fall sales meeting, held recently in Los Angeles.

All sales management personnel from the United States and Canada participated in the two-day conference, which was presided over by William Sorensen, executive vice-president and marketing director.

Another feature of the meeting was a talk by Dr. A. Kenneth Graham of Graham, Savage and Associates, Melbourne, Australia, on metal cleaning and plating. Louis McDonald, Kelite vice-president and technical director, announced development of a new



May We Put Some in Your Hands?

The Century Brand Oleic Acids pictured above have the following properties:

	Century 1050 L P White Oleic Acid	Century 1010 Distilled Oleic Acid
Maximum color, Lovibond	5Y/0.5R—5¼"	15Y/3R—1"
Acid value	197—203	195—201
Saponification value	198—205	197—203
Unsaponifiable content	1.5% max.	2.0% max.
Polyunsaturates	3% max.	

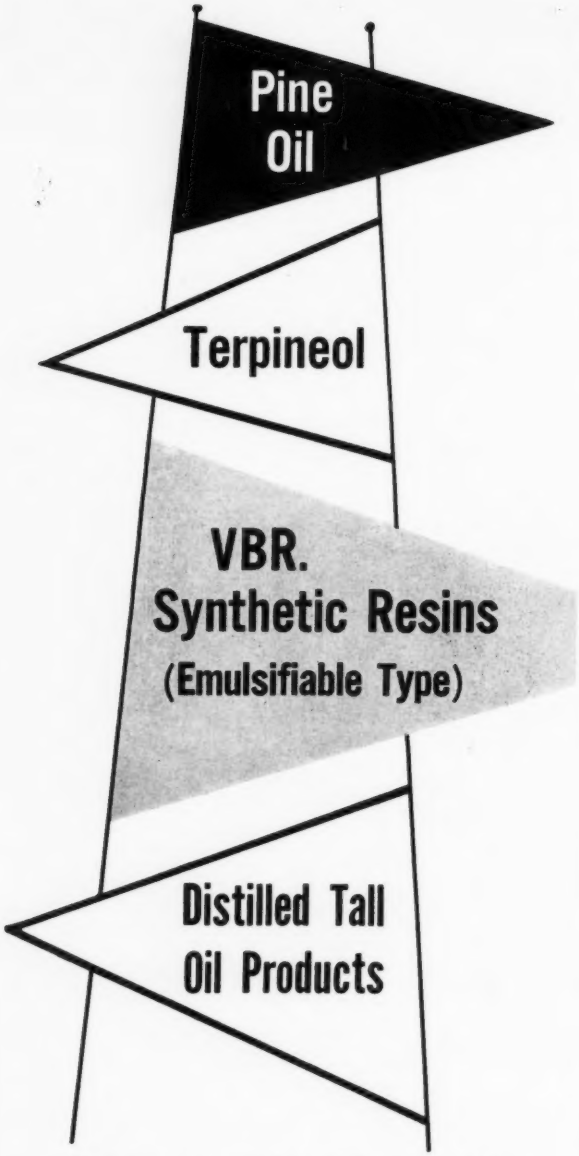
We would like you to see our Oleic Acids and compare them critically with other competitive products, so you may fully appreciate Century Brand quality. We invite your comparison of Century Brand Oleic Acids because only you can realize their advantages in *your* products.

A request to Dept. H-30 for samples will receive prompt attention and we will welcome the opportunity to put these better products in your hands.

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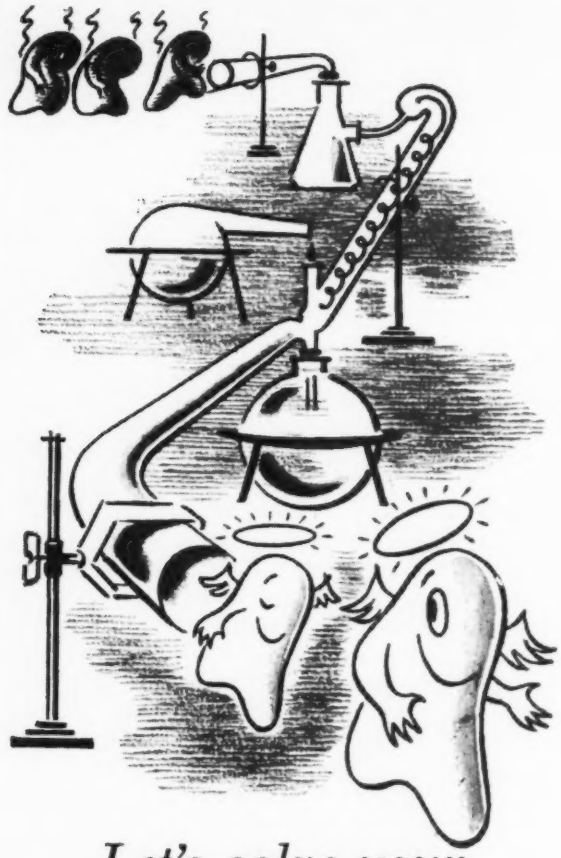
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product for removal of oily and oxide soils from automotive finishes.

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Warner-Lambert Elects

John S. Hewitt and Donald L. Bryant have been elected vice-presidents of Warner-Lambert Pharmaceutical Co., Morris Plains, N. J., it was announced recently by the board of directors. Mr. Hewitt is president of Anahist Co., Yonkers, N. Y., while Mr. Bryant is president of Parfums Ciro, New York. Both firms are subsidiaries of Warner-Lambert.

★

GAF Names Edson

Thomas F. Edson has been appointed plant manager of the Linden, N. J., plant of the Dyestuff and Chemical Division of General Aniline & Film Corp., New York. Mr. Edson, a consulting chemical engineer for the past two years, previously had served as vice-president of research for American Potash and Chemical Corp., Los Angeles, and with A. R. Maas Chemical Co., a division of Victor Chemical.

New O-Cedar Line

O-Cedar Division of American-Marietta Co., Chicago, recently announced that it has expanded its line to include cleaning and maintenance products for industrial and commercial use.



Douglas Cox

The company also announced formation of a new sales department to be headed by Douglas Cox to handle marketing of these products, which include mops, brooms, cleaning compounds, polishes, wax removers and floor waxes. Mr. Cox formerly was associated with Witco Chemical Co., New York.

O-Cedar's industrial division and new sales office are located at 2246 West 49th St., Chicago.

★

New Stepan Directors

Stepan Chemical Co., Chicago, recently announced the election of five new directors. They are: Wyndham Hasler, vice-president of the First National Bank of Chicago; Edmund A. Stephan, a partner in the law firm of Mayer, Freidlach, Spiess, Tierney, Brown and Platt, Chicago, C. P. Neidig, a partner, and director of the Philadelphia office, of White-Weld & Co., and a specialist in chemical securities; Jerome Kritchevsky, vice-president of Stepan; and Dr. Theodore Kritchevsky, vice-president in charge of research and production at the Ninol Division of Stepan.

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An important floor wax sales advantage is yours with NEOCRYL proven Copolymer Emulsions!

In the last five months, the ascending consumer sales of "clear" floor waxes has been paralleled by a sales jump in NeoCryl copolymer emulsions.

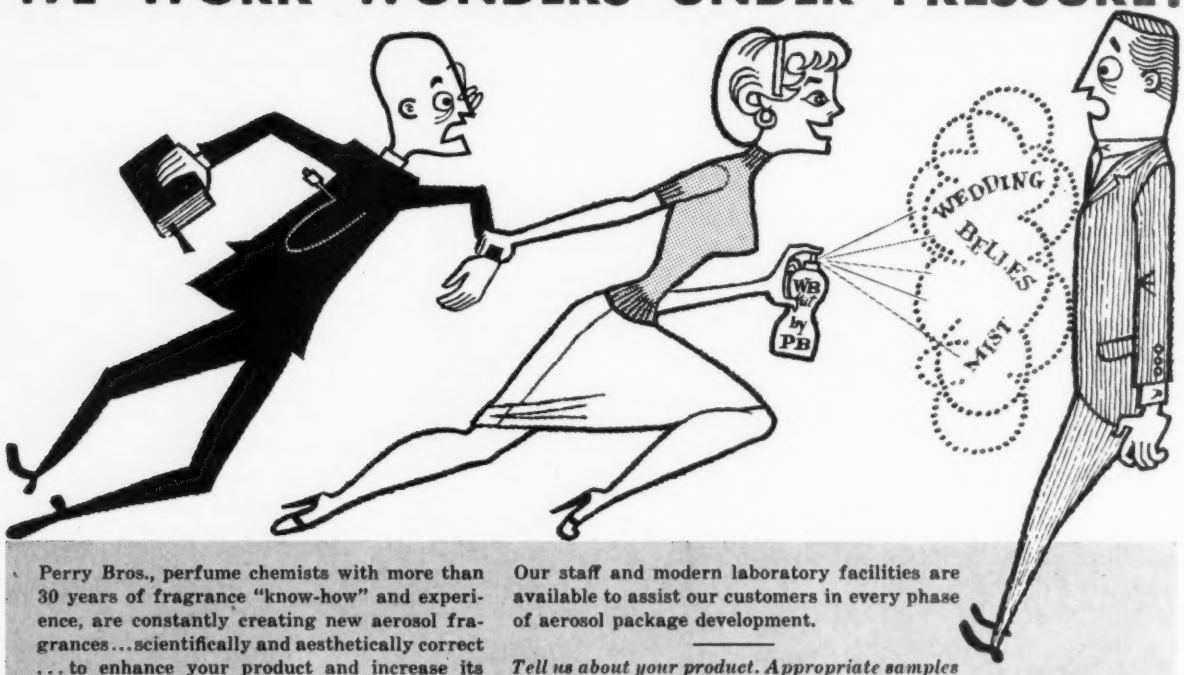
Of fine particle size, NeoCryls give an attractive translucent appearance to the emulsion. They promote formation of high-clarity films with excellent gloss. With NeoCryls, you can get all the other plus sales features, as well. Absolutely non-discoloring and non-yellowing.

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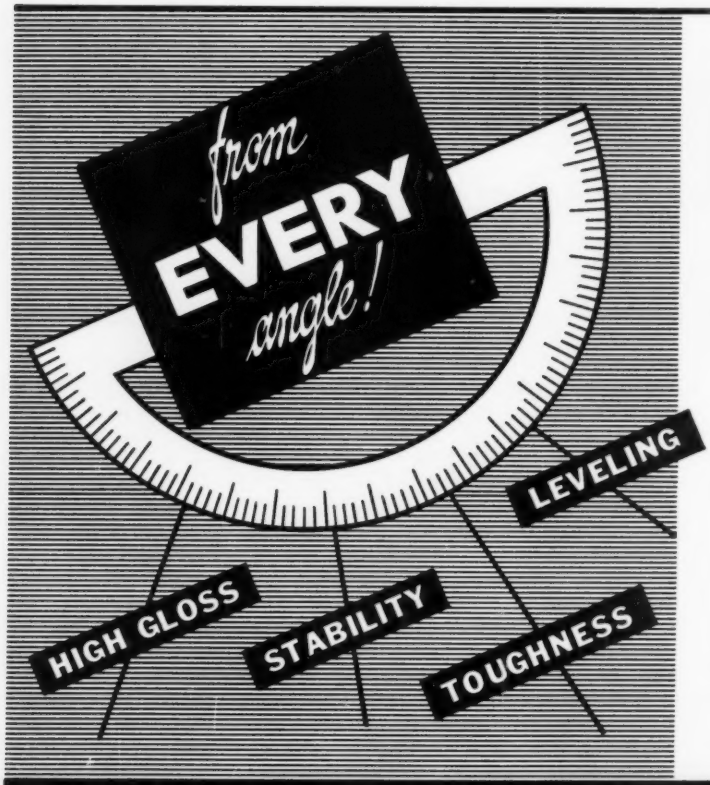


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P & S Names D'Ancona

Polak & Schwarz, Inc., New York, announced late last month the appointment of Benjamin



Benjamin D'Ancona

d'Ancona as senior vice-president of the firm's American organization. Prior to his recent advancement Mr. d'Ancona was general manager of the perfume division.

With P & S since 1919, he has been associated with various branches in different parts of the world until he joined the United States organization in 1940.

—★—

Heads Colgate Research

The election of Dr. John R. Brown, Jr., as a director and vice-president in charge of research and development was announced Nov. 15 by Edward H. Little, chairman and president of Colgate-Palmolive Co., New York. Prior to joining Colgate on Nov. 1, Dr. Brown was vice-president in charge of research and development for Spencer Chemical Co., Kansas City, Mo.

Dr. Brown succeeds Dr. Thomas H. Vaughn who had been vice-president in charge of research and development for Colgate from Nov. 1953 until he resigned Nov. 1, 1956 and later joined Pabst Brewing Co., Milwaukee.

Dr. Brown began his career in 1938 with Esso Laboratories — Chemical Division of Standard Oil Development Co. where he became director of the division. In 1946 he joined Pro-phy-lac-tic Brush Co. and in 1949 was transferred to the Lambert Pharmacal Co. where he became vice-president and director of research. He joined Spencer Chemical Co. in 1953.

A graduate of Oberlin College, Dr. Brown received both his B.S. in chemistry and his Master's degree there. He also holds a Doctor of Science degree from Massachusetts Institute of Technology.

Reporting to Dr. Brown will be Dr. R. B. Wearn, director of research and development for the household products division, which includes soaps and detergents, and Dr. Kenneth L. Russell, director of research and development for the toilet articles division.

Other recent changes at Colgate include the appointment of J. J. Sheehy as director of purchases for the household products division. E. H. Close became purchasing director of the toilet articles division.

Wax Properties

(*From Page* 141)

flexibility index. Consistent passing results in a rating of 100. Complete failure results in a rating of O.

G. *Clarity*

A wedge-shaped type of wax slab was prepared between two microscope glass slides. Starting at the thinnest part of the wedge, the wax was passed over Elite typewriter type towards the thick part of the wax wedge until a point was reached where the type became illegible. This spot was marked and the wax thickness was determined in mils.

H. *Texture Rating*

A simple manual method was used in determining the texture of the wax. It consisted simply in scraping off a layer of wax with the thumb nail and observing the nature of the shaving produced. A shaving which chipped and shattered was considered indicative of a brittle product. A shaving which flaked, but which cohered to give a continuous ribbon or curl was considered as indicative of a waxy texture. If no real flaking occurred, the wax merely acting like a very viscous paste, the product was rated as soft.

Reily Names Gilbert

Grover Gilbert has been named sales engineer for Reily Chemical Co., New Orleans, it was



Grover Gilbert

announced recently. He will headquarter in Dallas and will cover Kansas, Oklahoma, Colorado and parts of north Texas. Mr. Gilbert will assist Reily distributors with merchandising problems and sales training programs.

—★—

New Wyandotte Plant

Plans for construction of a new propylene oxide plant at its Wyandotte, Mich., Works, was announced recently by Wyandotte Chemicals Corp. Full scale operation of the unit is expected to begin sometime next spring. In addition, the plant will produce propylene dichloride and dichloroisopropyl-ether by the chlorohydrin process. Propylene is used in the manufacture of Wyandotte's "Pluronic" series of block polymers.

Clorox

(*From Page* 137)

introduced "Comet" in 1956, that it advertised and promoted "Comet" and that respondent distributed 30,000,000 or more miniature samples at a cost of 3.3 million dollars or more. Respondent denies for lack of knowledge and information "Comet's" alleged percentage of the market.

In connection with the third subparagraph, respondent alleges that it has on occasion advertised, promoted and sold products which, despite all of its efforts, failed to obtain consumer acceptance and that in several recent in-

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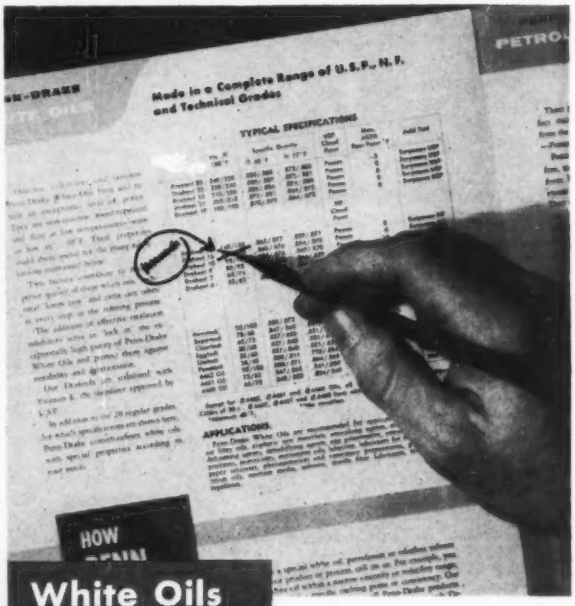
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stances the products were withdrawn from the market.

The allegations of Paragraph Thirteen are not only conclusory, ambiguous and argumentative but also irrelevant and immaterial to this proceeding and have no proper purpose and should be stricken.

Except as herein admitted, each and every allegation of Paragraph Thirteen is denied.

PARAGRAPH FOURTEEN: Respondent, by virtue of the acquisition, has expanded its line of soaps, detergents and cleaners with a closely allied product, household liquid bleach. While respondent had not, prior to the acquisition of Clorox, produced a product competitive with household liquid bleach, respondent's soaps, detergents, and cleansers are used by housewives in conjunction with, and as a complement to, household liquid bleach. Therefore, respondent can now offer grocery stores a complete line of cleansing and laundry products. Said complete line increases respondent's ability to obtain the aforementioned valuable and difficult to obtain grocery store shelf-space and is to the competitive disadvantage of household liquid bleach companies, none of whom possess the complete line of cleansing and laundry products as respondent now does.

ANSWER: In connection with the first sentence, the words "closely allied product" are ambiguous and the sentence is, therefore, denied.

In connection with the second sentence, it is admitted that respondent has not produced a product competitive with household liquid bleach.

In connection with the third sentence, respondent denies that it has a complete line of cleaning and laundry products.

Except as herein admitted, each and every allegation of Paragraph Fourteen is denied.

PARAGRAPH FIFTEEN: Respondent has violated Section 7 of the Clayton Act, as amended, in that the acquisition of the assets and business of Clorox, as described in Paragraph Nine hereof, may have the effect of substantially lessening competition or tending to create a monopoly in the production and sale of household liquid bleaches in the United States and in each of them.

More specifically, the aforesaid effects include the actual or potential lessening of competition and a tendency to create a monopoly in violation of Section 7 of the Clayton Act, as amended, in the following ways, among others:

1. Actual and potential competition generally in the production and sale of household liquid bleaches may be substantially lessened.
2. The Clorox Chemical Co. has been permanently eliminated as an independent competitive factor in the household liquid bleach industry.
3. Household liquid bleach producers may be unable to compete with respondent due to any one, any combination of, or all of the following factors: (a) Respondent's market position; (b) Respondent's financial and economic strength; (c) Respondent's advertising ability and experience; (d) Respondent's merchandising and promotional ability and experience; (e) Respondent's "full-line" of cleansing and laundry products; (f) Respondent's ability to command consumer acceptance of its products and of valuable grocery store shelf space; (g) Respondent's ability to concentrate on one of its products, or on one selected section of the country, the full impact of its advertising, promotional, and merchandising experience and ability.
4. Respondent's competitive position in the production and sale of household liquid bleaches may be enhanced to the detriment of actual and potential competition.
5. Industry-wide concentration of the production and sale of household liquid bleaches may be increased.
6. The acquisition gives respondent the facilities, the market position and the dominant ability to monopolize or to tend to monopolize the household liquid bleach market.

ANSWER: Each and every allegation of Paragraph Fifteen is denied and in this connection, respondent alleges that there are and may be factors, totally unrelated to the acquisition of Clorox, which will affect household liquid bleaches. In the case of practically all consumer products, technological advances and changes in consumer preferences affect their future course. This future course and the causes therefor can never be predicted with any accuracy, but such technological advances and changes in consumer preferences are certain to have a much greater effect than changes of ownership of the company involved. This applies specifically to the product "Clorox." Neither complainant nor respondent nor anyone else can predict or control the factors which may in the future affect the sales of household bleaches. Three all-important factors, namely, product quality, consumer preferences, and technological advances, are completely ignored in the Complaint.

PARAGRAPH SIXTEEN: The foregoing acquisition, acts and practices of respondent, as hereinbefore alleged and set forth, constitute a violation of Section 7 of the Clayton Act (U.S.C. Title 15, Sec. 18) as amended and approved December 29, 1950.

ANSWER: The allegations of Paragraph Sixteen are denied.

WHEREFORE, THE PREMISES CONSIDERED, the Federal Trade Commission, on this 30th day of September A.D., 1957, issues its complaint against said respondent.

WHEREFORE, respondent asserts that this proceeding should not be entertained by the Federal Trade Commission; that there is no cause of action against respondent, and no basis in law or fact for any cease and desist or divestiture order or for any other relief against respondent; and respondent therefore prays that this proceeding be dismissed.

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A two cent per pound reduction in the prices of "Lorol" fatty alcohols was announced recently by E. I. du Pont de Nemours & Co., Wilmington, Del. The price reduction follows recent congressional action repealing, until June 1960 the processing tax on coconut oil, basic ingredient of the "Lorol" series, which is used in detergents, shampoos, and other specialties. Fatty alcohols have come down in price by 15 per cent since 1952.

Antifreeze Outlook

(*From Page* 113)

continued growth in car registrations. If we assume a 3 per cent annual increase in the total vehicle registrations, it is estimated that by 1965 there should be 84,300,000 passenger cars, trucks, and buses in use. This represents almost a 20,000,000 increase in registrations over the 1956 level.

What does this mean in terms of future antifreeze requirements? As a minimum, one should expect the antifreeze market to increase at least 3 per cent per year, in line with the increase in motor vehicle registrations. In addition to this, however, there is the incremental increase in the glycol market represented by reuse of antifreeze, which is quite substantial, as we have already pointed out.

Figure 5 shows glycol antifreeze requirements through 1965 at various reuse levels. Each reuse level shows an annual growth rate of 3 per cent per year. However, if the merchandising efforts of the antifreeze sellers succeeded in reducing reuse of antifreeze to the level of 15 per cent by 1965, the average growth rate through 1965 would not be 3 per cent per year but would be as high about 4.6 per cent per year.

In recent years, considerable speculation has appeared in the press regarding new types of motive power for automotive vehicles. Gas turbines and free piston engines are most frequently mentioned.

In the realm of gas turbines for automotive use, several of the motor car companies have publicized their road tests to a considerable extent. Although progress has apparently been made in overcoming a number of problems connected with the gas turbine, it still appears a long way off. Even major proponents of the gas turbine are of the opinion that it will be around 1965 before they may be used in passenger vehicles. In general, the gas turbine appears to be regarded less favorably at the present time than it was two years ago.

The free piston engine has been the subject of much discussion and speculation in recent years. This type of automotive power plant can be designed to operate either as an air-cooled or a water-cooled engine. In essence, the free piston engine is a modification of a diesel engine. As in the case of the gas turbine, the free piston engine has both proponents and opponents. Its present state of development is probably no farther along than that of the gas turbine.

The conventional piston engine will continue to be the prime power source for motor vehicles in the immediate future. Although both gas turbines and free piston engines must be considered definite future possibilities, their utilization in motor vehicles appears to be quite a long way off. Hence, it is highly improbable that they could be adopted in sufficient numbers to exert an adverse effect on the antifreeze market in 1965.

In summary, the antifreeze market certainly shows promise of future growth and may be expected to increase at a rate of at least 3 per cent per year. Any increase above this figure will have to come about as a result of the sales efforts of antifreeze sellers, especially efforts designed to reduce the reuse of glycol-based antifreeze. Finally, it seems improbable that the piston powered vehicle, with its requirements for coolant and antifreeze, will be replaced by other types of motive power within the next decade, at least not to any substantial degree.

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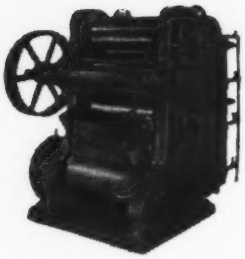
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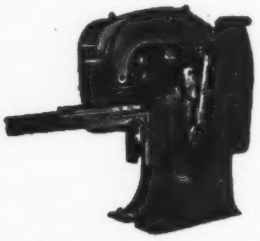
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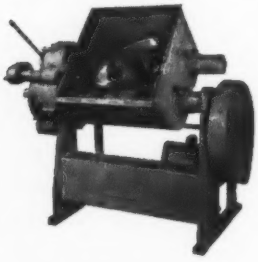


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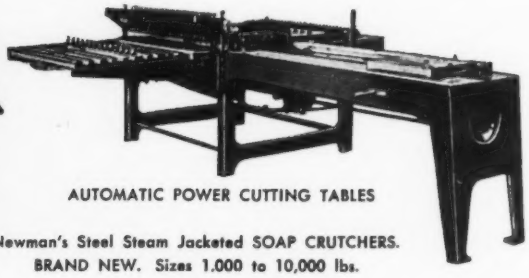
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Chemist: Also supervisor production of floor waxes, shoe polishes, insecticides, soaps, cosmetics and other specialties. 15 years experience abroad. Desires position with U. S. firm. Graduate chemistry Univ. Vienna and Brussels. Speak & write French, German, English. Excellent health. Will go anywhere in U. S. Address Box 937, c/o *Soap*.

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(*Reference Books see page* 288)

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Soapers at Hotel Show

(*From Page* 261)

division of Lever Brothers Co., New York; Long Island Soap Co., Brooklyn, N. Y.; institutional dept. of Procter & Gamble Co., Cincinnati; John T. Stanley Co., New York; and the J. B. Ford Division of Wyandotte Chemicals Corp., Wyandotte, Mich.

Armour's booth at the show was officially opened by singer Patti Page, star of "The Big Record," CBS network television show sponsored by Armour each Wednesday evening. Armour featured new "Golden Dial" at its booth during the exposition. The soap combines a new golden color and a wrapper to match as well as a new deodorant ingredient.

New products presented by Colgate-Palmolive at the show were "Arctic Syntex M Liquid" and "Arctic Syntex 036," both synthetic detergents. Colgate also exhibited a complete line of bulk soaps and "Ajax Cleanser" in powder and paste form.

"J" Chemical Works showed its "Super Mafos" dishwashing briquets. The booth was equipped with a tank for actual demonstrations of how the product works in water.

Highlighted at the Lever Brothers Co. exhibit was "All" detergent, shown for the first time in 100-pound bags for commercial, industrial and institutional use. This product was acquired earlier this year by Lever from Monsanto Chemical Co., St. Louis.

At the Long Island Soap Co. booth, the company showed its hand dishwashing compound, called "Alba," as well as its "Lisco" line of scouring cleanser and ammonia products.

Procter & Gamble's exhibit presented "Comet" cleanser to show visitors for the first time. Also shown were institutional size "Ivory" and "Camay."

John T. Stanley Co. booth also introduced a new product to the hotel trade in the form of "Soil-Eze," a liquid detergent for laundry and maintenance cleaning.

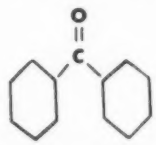
The keynote address of the five-day exposition was delivered by Willard E. Dodd, president of Knott Hotels Corp., who addressed the members of the two co-sponsoring hotel groups at a luncheon officially opening the exposition. In his talk Mr. Dodd stated that the industry should record some $2,700,000,000 in sales during the coming year. This gross income represents combined sales for rooms, food and beverages.

★

Givaudan Leaves U. S.

Andre Givaudan, a director of L. Givaudan and Cie, S.A., Geneva, Switzerland, left the United States last month after completing his semi-annual visit to this country. While here, Mr. Givaudan conferred with directors of Givaudan Delawanna, Inc., and Sindar Corp., both of New York, and both American subsidiaries of L. Givaudan and Cie.

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Coming Meetings

American Society of Perfumers, monthly meeting, Advertising Club, New York, Feb. 19.

Association of American Soap & Glycerine Producers, 31st annual convention, Waldorf-Astoria Hotel, New York, Jan. 22-24, 1958.

Chemical Industries, 26th Exposition, Coliseum, New York, Dec. 2-6.

Chemical Specialties Manufacturers Association, 44th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-12; 44th midyear meeting, Netherland Hilton Hotel, Cincinnati, May 19-21.

Compressed Gas Association, 45th annual meeting, Waldorf Astoria Hotel, New York, Jan. 20-21.

Essential Oil Association, annual meeting, Savoy Plaza Hotel, New York, Jan. 10.

Industrial and Building Sanitation Maintenance, third show and conference, Sheraton Philadelphia Hotel and Convention Hall, Philadelphia, Nov. 3-6, 1958.

National Sanitary Supply Association, 35th annual convention and trade show, Coliseum, New York, Feb. 22-25, 2nd western trade show and conference, Fairmount Hotel, San Francisco, Oct. 19-21, 1958.

Packaging Machinery & Materials Convention, Convention Hall, Atlantic City, N. J., March 25-28, 1958.

Plant Maintenance & Engineering Show, 9th annual exposition, International Amphitheater, Chicago, Jan. 29-30.

Society of Cosmetic Chemists, 16th annual meeting, Commodore Hotel, New York, Dec. 10.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, Jan. 7, Feb. 11, annual dinner, Dec. 4.

Toilet Goods Association, 23rd annual convention, Poland Spring House, Poland, Maine, June 25-29, 1958; scientific section, Waldorf Astoria Hotel, New York, Dec. 9, 1957, and June 5, 1958.

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Tale Ends

TO the one thousand people attending the 44th annual convention of the Chemical Specialties Manufacturers Assn. at Hollywood Beach in Sunny Florida, we urgently suggest that they soak up as much sunshine and free orange juice as possible this year. In 1958, the CSMA annual meeting returns to the ice and snow of old New York,—and to sanity.

* * * * *

A world's record or something as head man of a trade association was recently set by Paul S. Willis who was re-elected president of the Grocery Manufacturers of America for his 26th consecutive term as president of the 49th annual meeting in N.Y. on Nov. 13. Newly elected members of the GMA Board include William Burkhart, president of Lever Brothers; Ralph A. Hart, executive vice-president of Colgate and Walter S. Shafer, vice-president of Armour.

* * * * *

A trip to Paris yet for free! First prize at the annual Christmas sprawl of the Chemical Salesmen's Association will be a seven-day trip to Paris for two, all expenses paid. All expenses? That could be a bit humorous, that all expenses thing. From what we hear, the average American can't take it for seven days in Paris, financially that is. So let's hope that this "all expenses" means what it says.

* * * * *

Come 1958 and Geigy will celebrate 200 years in business. Founded in 1758 by Johann Rudolph Geigy, the company spread from Switzerland to all parts of the world. Today there are Geigy organizations in 86 countries. One of the first to manufacture synthetic dyes and chemicals, Geigy became a world leader in dyes, pharmaceuticals, agricultural and other chemicals. It was Geigy's Dr. Paul Muller, winner of the Nobel Prize for Medicine in 1948, who discovered DDT as an insecticide. There'll be big doings by Geigy next year as its 200th anniversary is celebrated.

* * * * *

Jim Green, formerly sales manager of the chemical specialty division of the Standard Oil Co. of Indiana, Chicago,—when Standard of Indiana had a specialty division, which was up until about a year ago when it was abolished. Well, anyway, Jim retired Dec. 1 from Standard Oil. The "Senator" as he used to be known to the CSMA gang because of his shock of wavy white hair, has some plans which he will announce in the near future

* * * * *

Caroline Young, daughter of Russell Young, president of the Davies-Young Soap Co., Dayton, O., was married Nov. 16 to George R. Thompson, Jr. For several years prior to her marriage, Caroline was secretary to her father at Davies-Young. It was her wont upon occasion to pen neat little notes in long hand at the bottom of her father's letters after he had signed them. Probably mostly to old friends and customers who knew her when. A real added personal touch. We wonder if the old man ever knew about it.

* * * * *

Business entertainment takes a funny slant sometimes. We happen to know a wax man who has seen the New York play, "My Fair Lady," six times, each time with a different customer. And he figures he will have to see it a few times more before its run is ended. Cost of tickets? This makes the said gentleman shudder a bit. By now, he is almost as familiar with all the cues and punch lines in the show as the cast. Ah, entertainment,—what sins are committed in thy name!

* * * * *

Pentagon officials no longer speak of a "calculated risk"—a phrase familiar to most military planners, according to Assistant Secretary of Defense Wilfred J. McNeil. Now its "Procter's Gamble," he told a meeting of the National Security Association. Neil H. McElroy, former P&G president, took over the nation's top defense post in October.

* * * *

Harvey Tull, manager of Aerosol Products for Crown Cork & Seal's Can Division recently announced the winner of their "Billionth Spra-tainer" Contest. Ed Thau of Nestle Le Mur Co., New York, picked the time and date when the billionth "Spra-tainer" would come off the line. It was 3:40 PM on November 8. And it won the contest. The voting was done at the CSMA meeting in Chicago last May.

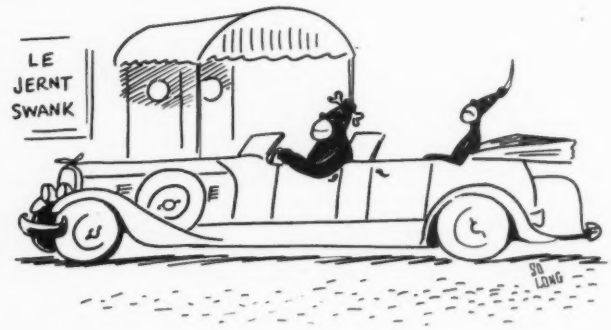
* * * * *

At long last we've found it,—and seen it with our own eyes,—a small jar of face cream and a regular cake of fancy toilet soap packed neatly in a cardboard box and priced at "regularly $20.00, now reduced to $15.00, plus 10% Federal tax." And this is no French import, no L'Armour Toujour. It's called Queen Bee soap and cream, created by Lily Dache and sold by Marie Earle,—American as a grilled hamburger. We're still shaking a little after viewing the price tag. Beauty is really getting expensive.

* * * * *

Add to list of new aerosol uses. Shave cream, Christmas snow, hair spray, etc., as used by Halloween pranksters for decorating store windows, automobile windshields and persons. It happened in the hamlet of Rhinebeck, N.Y., and probably many other places, on the recent Halloween, Oct. 31. Youngsters cleaned out the village's two drug and hardware stores of aerosols and used them to "decorate" the place. The village was a mess. In addition, the perfumes from the products filled the main drag with a not unpleasant aroma.

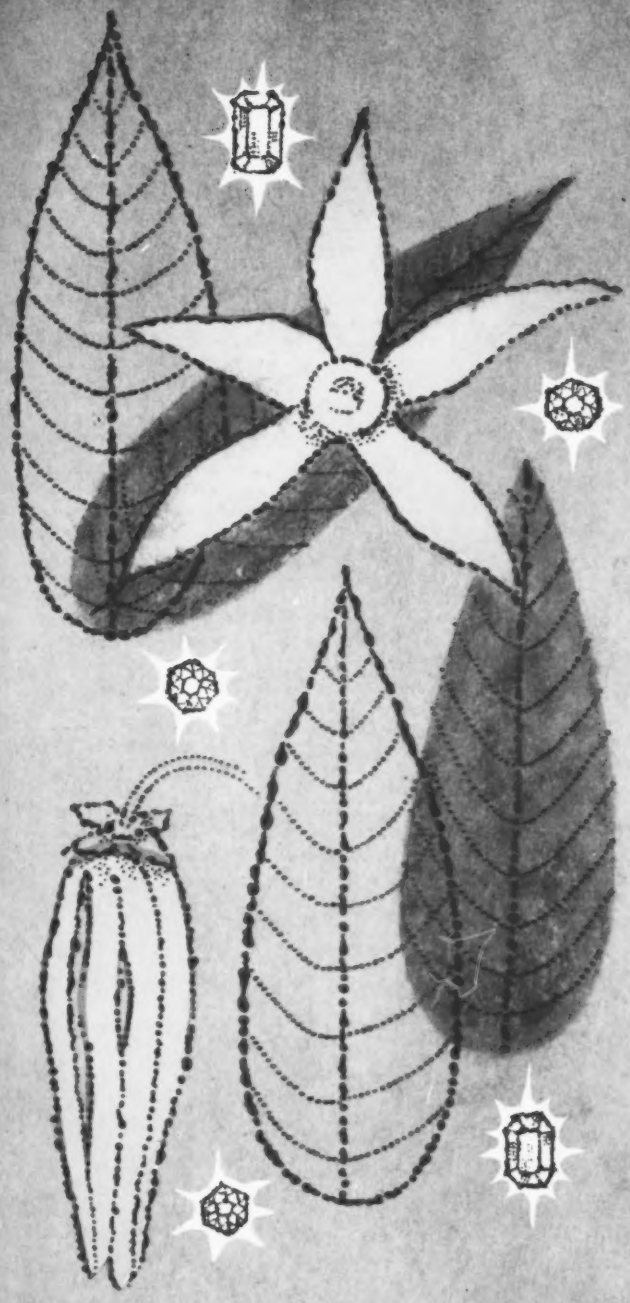
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